LOUISA COUNTY WATER AUTHORITY
P.O. BOX 9
23 LOUDIN LANE
LOUISA, VIRGINIA 23093
PHONE: (540) 967-1122
FAX: (540) 967-0656

May 30, 2014

Commonwealth of Virginia
Department of Environmental Quality
Northern Virginia Regional Office
13901 Crown Court
Woodbridge, Virginia 22193

Attn: Alison Thompson

Re: Permit Renewal Application for Louisa Regional Sewage Treatment Plant, VPDES #VA0067954

Dear Ms. Thompson,

Attached for your review is the Louisa County Water Authority's application for permit renewal for the Louisa Regional Sewage Treatment Plant, VPDES #VA0067954.

We have concerns about the representativeness of the three data points offered on effluent water hardness. The sampling dates were preceded by heavy rainfall. Therefore, we will be collecting additional data for the next 60 days or so and will submit it to you as soon as it is available.

Please let me know if you have any questions or require additional information.

Sincerely,

Dean C. Rodgers
General Manager

Attachments:

Form 2A
Application Addendum
Public Notice Billing Form
Sludge Application

FACILITY NAME AND PERMIT NUMBER:
Louisa Regional Sewage Treatment Plant, VA0067954

Form Approved 1/14/99
OMB Number 2040-0086

FORM 2A NPDES

NPDES FORM 2A APPLICATION OVERVIEW

APPLICATION OVERVIEW

Form 2A has been developed in a modular format and consists of a "Basic Application Information" packet and a "Supplemental Application Information" packet. The Basic Application Information packet is divided into two parts. All applicants must complete Parts A and C. Applicants with a design flow greater than or equal to 0.1 mgd must also complete Part B. Some applicants must also complete the Supplemental Application Information packet. The following items explain which parts of Form 2A you must complete.

BASIC APPLICATION INFORMATION:

A. **Basic Application Information for all Applicants.** All applicants must complete questions A.1 through A.8. A treatment works that discharges effluent to surface waters of the United States must also answer questions A.9 through A.12.

B. **Additional Application Information for Applicants with a Design Flow ≥ 0.1 mgd.** All treatment works that have design flows greater than or equal to 0.1 million gallons per day must complete questions B.1 through B.6.

C. **Certification.** All applicants must complete Part C (Certification).

SUPPLEMENTAL APPLICATION INFORMATION:

D. **Expanded Effluent Testing Data.** A treatment works that discharges effluent to surface waters of the United States and meets one or more of the following criteria must complete Part D (Expanded Effluent Testing Data):

1. Has a design flow rate greater than or equal to 1 mgd,
2. Is required to have a pretreatment program (or has one in place), or
3. Is otherwise required by the permitting authority to provide the information.

E. **Toxicity Testing Data.** A treatment works that meets one or more of the following criteria must complete Part E (Toxicity Testing Data):

1. Has a design flow rate greater than or equal to 1 mgd,
2. Is required to have a pretreatment program (or has one in place), or
3. Is otherwise required by the permitting authority to submit results of toxicity testing.

F. **Industrial User Discharges and RCRA/CERCLA Wastes.** A treatment works that accepts process wastewater from any significant industrial users (SIUs) or receives RCRA or CERCLA wastes must complete Part F (Industrial User Discharges and RCRA/CERCLA Wastes). SIUs are defined as:

1. All industrial users subject to Categorical Pretreatment Standards under 40 Code of Federal Regulations (CFR) 403.6 and 40 CFR Chapter I, Subchapter N (see instructions); and
2. Any other industrial user that:
   a. Discharges an average of 25,000 gallons per day or more of process wastewater to the treatment works (with certain exclusions); or
   b. Contributes a process wastestream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the treatment plant; or
   c. Is designated as an SIU by the control authority.

G. **Combined Sewer Systems.** A treatment works that has a combined sewer system must complete Part G (Combined Sewer Systems).

ALL APPLICANTS MUST COMPLETE PART C (CERTIFICATION)

BASIC APPLICATION INFORMATION

PART A. BASIC APPLICATION INFORMATION FOR ALL APPLICANTS:

All treatment works must complete questions A.1 through A.8 of this Basic Application information packet.

A.1. Facility Information.

Facility name: Louisa Regional Sewage Treatment Plant

Mailing Address: P.O. Box 9
Louisa, VA 23093

Contact person: Dean Rodgers

Title: General Manager, Louisa County Water Authority

Telephone number: (540) 967-1122

Facility Address (not P.O. Box): 131 Pine Ridge Drive
Louisa, VA 23093

A.2. Applicant Information. If the applicant is different from the above, provide the following:

Applicant name: Louisa County Water Authority

Mailing Address: P.O. Box 9
Louisa, VA 23093

Contact person: Dean Rodgers

Title: General Manager, Louisa County Water Authority

Telephone number: (540) 967-1122

Is the applicant the owner or operator (or both) of the treatment works?

_____ owner ✓ operator

Indicate whether correspondence regarding this permit should be directed to the facility or the applicant.

_____ facility ✓ applicant

A.3. Existing Environmental Permits. Provide the permit number of any existing environmental permits that have been issued to the treatment works (include state-issued permits).

NPDES	VA0067954	PSD	
UIC		Other	VPA 00074
RCRA		Other	

A.4. Collection System Information. Provide information on municipalities and areas served by the facility. Provide the name and population of each entity and, if known, provide information on the type of collection system (combined vs. separate) and its ownership (municipal, private, etc.).

Name	Population Served	Type of Collection System	Ownership
Town of Louisa	1555 (648 cust)	separate	Town of Louisa
Town of Mineral	467 (143 cust)	separate	Town of Mineral
County	83 customers	separate	Water Authority

Total population served 2105

A.5. Indian Country.

a. Is the treatment works located in Indian Country?

_____ Yes ✓ No

b. Does the treatment works discharge to a receiving water that is either in Indian Country or that is upstream from (and eventually flows through) Indian Country?

_____ Yes ✓ No

A.6. Flow. Indicate the design flow rate of the treatment plant (i.e., the wastewater flow rate that the plant was built to handle). Also provide the average daily flow rate and maximum daily flow rate for each of the last three years. Each year's data must be based on a 12-month time period with the 12th month of "this year" occurring no more than three months prior to this application submittal.

a. Design flow rate .80 mgd

	Two Years Ago	Last Year	This Year	
b. Annual average daily flow rate	.311	.213	.316	mgd
c. Maximum daily flow rate	.637	.481	.769	mgd

A.7. Collection System. Indicate the type(s) of collection system(s) used by the treatment plant. Check all that apply. Also estimate the percent contribution (by miles) of each.

✓ Separate sanitary sewer	100 %
_____ Combined storm and sanitary sewer	_____ %

A.8. Discharges and Other Disposal Methods.

a. Does the treatment works discharge effluent to waters of the U.S.? ✓ Yes _____ No

If yes, list how many of each of the following types of discharge points the treatment works uses:

i. Discharges of treated effluent	1
ii. Discharges of untreated or partially treated effluent	0
iii. Combined sewer overflow points	0
iv. Constructed emergency overflows (prior to the headworks)	0
v. Other _____	N/A

b. Does the treatment works discharge effluent to basins, ponds, or other surface impoundments that do not have outlets for discharge to waters of the U.S.? _____ Yes ✓ No

If yes, provide the following for each surface impoundment:

Location: _____

Annual average daily volume discharged to surface impoundment(s) _____ mgd

Is discharge _____ continuous or _____ intermittent?

c. Does the treatment works land-apply treated wastewater? _____ Yes ✓ No

If yes, provide the following for each land application site:

Location: _____

Number of acres: _____

Annual average daily volume applied to site: _____ Mgd

Is land application _____ continuous or _____ intermittent?

d. Does the treatment works discharge or transport treated or untreated wastewater to another treatment works? _____ Yes ✓ No

If yes, describe the mean(s) by which the wastewater from the treatment works is discharged or transported to the other treatment works (e.g., tank truck, pipe).

If transport is by a party other than the applicant, provide:

Transporter name:

Mailing Address:

Contact person:

Title:

Telephone number:

For each treatment works that receives this discharge, provide the following:

Name:

Mailing Address:

Contact person:

Title:

Telephone number:

If known, provide the NPDES permit number of the treatment works that receives this discharge.

Provide the average daily flow rate from the treatment works into the receiving facility. mgd

e. Does the treatment works discharge or dispose of its wastewater in a manner not included in A.8.a through A.8.d above (e.g., underground percolation, well injection)? Yes ✓ No

If yes, provide the following for each disposal method:

Description of method (including location and size of site(s) if applicable):

Annual daily volume disposed of by this method:

Is disposal through this method continuous or intermittent?

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WASTEWATER DISCHARGES:

If you answered "yes" to question A.8.a, complete questions A.9 through A.12 **once for each outfall** (including bypass points) through which effluent is discharged. Do not include information on combined sewer overflows in this section. **If you answered "no" to question A.8.a**, go to Part B, "Additional Application Information for Applicants with a Design Flow Greater than or Equal to 0.1 mgd."

A.9. Description of Outfall.

a. Outfall number: 001

b. Location:
Louisa (City or town, if applicable) — 23093 (Zip Code)
Louisa (County) — Virginia (State)
38.008712 (Latitude) — -77.99367 (Longitude)

c. Distance from shore (if applicable): 0 ft.

d. Depth below surface (if applicable): 0 ft.

e. Average daily flow rate: .398 mgd

f. Does this outfall have either an intermittent or a periodic discharge? ✓ Yes ____ No (go to A.9.g.)

If yes, provide the following information:

Number of times per year discharge occurs: 365

Average duration of each discharge: 24 hours

Average flow per discharge: ____ mgd

Months in which discharge occurs: all

g. Is outfall equipped with a diffuser? ✓ Yes ____ No

A.10. Description of Receiving Waters.

a. Name of receiving water: Beaver Creek

b. Name of watershed (if known): York River

United States Soil Conservation Service 14-digit watershed code (if known): ____

c. Name of State Management/River Basin (if known): York River

United States Geological Survey 8-digit hydrologic cataloging unit code (if known): ____

d. Critical low flow of receiving stream (if applicable):
acute 1Q10 cfs chronic 7Q10 cfs

e. Total hardness of receiving stream at critical low flow (if applicable): ____ mg/l of $CaCO_3$

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A.11. Description of Treatment.

a. What levels of treatment are provided? Check all that apply.

✓ Primary ✓ Secondary
✓ Advanced _____ Other. Describe: _____

b. Indicate the following removal rates (as applicable):

Design BOD_5 removal or Design $CBOD_5$ removal	95	%
Design SS removal	95	%
Design P removal	87	%
Design N removal	80	%
Other _____	N/A	%

c. What type of disinfection is used for the effluent from this outfall? If disinfection varies by season, please describe.

Ultra-violet light. No seasonal variation.

If disinfection is by chlorination, is dechlorination used for this outfall? _____ Yes _____ No

d. Does the treatment plant have post aeration? ✓ Yes _____ No

A.12. Effluent Testing Information. All Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three samples and must be no more than four and one-half years apart.

Outfall number: 001

PARAMETER	MAXIMUM DAILY VALUE		AVERAGE DAILY VALUE		
	Value	Units	Value	Units	Number of Samples
pH (Minimum)	6.9	s.u.			
pH (Maximum)	7.4	s.u.			
Flow Rate	1.08	MGD	.35	MGD	Cont
Temperature (Winter)					
Temperature (Summer)					

* For pH please report a minimum and a maximum daily value

POLLUTANT		MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML / MDL
		Conc.	Units	Conc.	Units	Number of Samples		
CONVENTIONAL AND NONCONVENTIONAL COMPOUNDS.								
BIOCHEMICAL OXYGEN	BOD-5							
DEMAND (Report one)	CBOD-5	2.67	kg/D	.71	kg/D	3D/W		
FECAL COLIFORM				124	n/CML	3D/W		
TOTAL SUSPENDED SOLIDS (TSS)		6	mg/l	4.27	mg/L	3D/W		

END OF PART A.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

BASIC APPLICATION INFORMATION

PART B. ADDITIONAL APPLICATION INFORMATION FOR APPLICANTS WITH A DESIGN FLOW GREATER THAN OR EQUAL TO 0.1 MGD (100,000 gallons per day).

All applicants with a design flow rate ≥ 0.1 mgd must answer questions B.1 through B.6. All others go to Part C (Certification).

B.1. Inflow and Infiltration. Estimate the average number of gallons per day that flow into the treatment works from inflow and/or infiltration.

.154 gpd

Briefly explain any steps underway or planned to minimize inflow and infiltration.

Town of Mineral has just completed lining a significant portion of its sewer lines. Continue biennial smoke testing.

B.2. Topographic Map. Attach to this application a topographic map of the area extending at least one mile beyond facility property boundaries. This map must show the outline of the facility and the following information. (You may submit more than one map if one map does not show the entire area.)

a. The area surrounding the treatment plant, including all unit processes.

b. The major pipes or other structures through which wastewater enters the treatment works and the pipes or other structures through which treated wastewater is discharged from the treatment plant. Include outfalls from bypass piping, if applicable.

c. Each well where wastewater from the treatment plant is injected underground.

d. Wells, springs, other surface water bodies, and drinking water wells that are: 1) within 1/4 mile of the property boundaries of the treatment works, and 2) listed in public record or otherwise known to the applicant.

e. Any areas where the sewage sludge produced by the treatment works is stored, treated, or disposed.

f. If the treatment works receives waste that is classified as hazardous under the Resource Conservation and Recovery Act (RCRA) by truck, rail, or special pipe, show on the map where that hazardous waste enters the treatment works and where it is treated, stored, and/or disposed.

B.3. Process Flow Diagram or Schematic. Provide a diagram showing the processes of the treatment plant, including all bypass piping and all backup power sources or redundancy in the system. Also provide a water balance showing all treatment units, including disinfection (e.g, chlorination and dechlorination). The water balance must show daily average flow rates at influent and discharge points and approximate daily flow rates between treatment units. Include a brief narrative description of the diagram.

B.4. Operation/Maintenance Performed by Contractor(s).

Are any operational or maintenance aspects (related to wastewater treatment and effluent quality) of the treatment works the responsibility of a contractor? ___Yes ✓ No

If yes, list the name, address, telephone number, and status of each contractor and describe the contractor's responsibilities (attach additional pages if necessary).

Name: _____

Mailing Address: _____

_____

Telephone Number: _____

Responsibilities of Contractor: _____

B.5. Scheduled Improvements and Schedules of Implementation. Provide information on any uncompleted implementation schedule or uncompleted plans for improvements that will affect the wastewater treatment, effluent quality, or design capacity of the treatment works. If the treatment works has several different implementation schedules or is planning several improvements, submit separate responses to question B.5 for each. (If none, go to question B.6.)

a. List the outfall number (assigned in question A.9) for each outfall that is covered by this implementation schedule.

001

b. Indicate whether the planned improvements or implementation schedule are required by local, State, or Federal agencies.

✓ Yes ___No

c If the answer to B.5.b is "Yes," briefly describe, including new maximum daily inflow rate (if applicable).

Plant is finalizing upgrade to .8 mgd. Will request CTO shortly.

d. Provide dates imposed by any compliance schedule or any actual dates of completion for the implementation steps listed below, as applicable. For improvements planned independently of local, State, or Federal agencies, indicate planned or actual completion dates, as applicable. Indicate dates as accurately as possible.

	Schedule	Actual Completion
Implementation Stage	MM / DD / YYYY	MM / DD / YYYY
– Begin construction	01 / 31 / 2010	___/___/____
– End construction	06 / 30 / 2011	?? / ?? / ????
– Begin discharge	___/___/____	___/___/____
– Attain operational level	?? / ?? / ????	?? / ?? / ????

e. Have appropriate permits/clearances concerning other Federal/State requirements been obtained? ____Yes ____No

Describe briefly: N/A

B.6. EFFLUENT TESTING DATA (GREATER THAN O.1 MGD ONLY).

Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three pollutant scans and must be no more than four and one-half years old.

Outfall Number: 001

POLLUTANT	MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML / MDL
	Conc.	Units	Conc.	Units	Number of Samples		
CONVENTIONAL AND NONCONVENTIONAL COMPOUNDS.							
AMMONIA (as N)	.89	mg/L	.28	mg/L	3/W, 8HC		
CHLORINE (TOTAL RESIDUAL, TRC)	N/A						
DISSOLVED OXYGEN	9.56 min	mg/L			1/D, grab		
TOTAL KJELDAHL NITROGEN (TKN)	2.03	mg/L	2.03	mg/L	1/M, 8HC		
NITRATE PLUS NITRITE NITROGEN	3.66	mg/L	3.66	mg/L	1/M, 8HC		
OIL and GREASE	N/A						
PHOSPHORUS (Total)	.16	mg/L	.16	mg/L	1/M, 8HC		
TOTAL DISSOLVED SOLIDS (TDS)	N/A						
OTHER							

END OF PART B.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

BASIC APPLICATION INFORMATION

PART C. CERTIFICATION

All applicants must complete the Certification Section. Refer to instructions to determine who is an officer for the purposes of this certification. All applicants must complete all applicable sections of Form 2A, as explained in the Application Overview. Indicate below which parts of Form 2A you have completed and are submitting. By signing this certification statement, applicants confirm that they have reviewed Form 2A and have completed all sections that apply to the facility for which this application is submitted.

Indicate which parts of Form 2A you have completed and are submitting:

_____ Basic Application Information packet

Supplemental Application Information packet:

_____ Part D (Expanded Effluent Testing Data)

_____ Part E (Toxicity Testing: Biomonitoring Data)

_____ Part F (Industrial User Discharges and RCRA/CERCLA Wastes)

_____ Part G (Combined Sewer Systems)

ALL APPLICANTS MUST COMPLETE THE FOLLOWING CERTIFICATION.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and official title: Dean C. Rodgers, LCWA General Manager

Signature: _____

Telephone number: (540) 967-1122

Date signed: _____

Upon request of the permitting authority, you must submit any other information necessary to assess wastewater treatment practices at the treatment works or identify appropriate permitting requirements.

SEND COMPLETED FORMS TO:

FACILITY NAME AND PERMIT NUMBER:
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SUPPLEMENTAL APPLICATION INFORMATION

PART D. EXPANDED EFFLUENT TESTING DATA

Refer to the directions on the cover page to determine whether this section applies to the treatment works.

Effluent Testing: 1.0 mgd and Pretreatment Treatment Works. If the treatment works has a design flow greater than or equal to 1.0 mgd or it has (or is required to have) a pretreatment program, or is otherwise required by the permitting authority to provide the data, then provide effluent testing data for the following pollutants. Provide the indicated effluent testing information and any other information required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analyses conducted using 40 CFR Part 136 methods. In addition, these data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. Indicate in the blank rows provided below any data you may have on pollutants not specifically listed in this form. At a minimum, effluent testing data must be based on at least three pollutant scans and must be no more than four and one-half years old.

Outfall number: 001 (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
METALS (TOTAL RECOVERABLE), CYANIDE, PHENOLS, AND HARDNESS.											
ANTIMONY	Please see attached ESS analytical reports dated 4/4/14, 4/16/14 and 5/15/14										
ARSENIC											
BERYLLIUM											
CADMIUM											
CHROMIUM											
COPPER											
LEAD											
MERCURY											
NICKEL											
SELENIUM											
SILVER											
THALLIUM											
ZINC											
CYANIDE											
TOTAL PHENOLIC COMPOUNDS											
HARDNESS (AS $CaCO_3$)											
Use this space (or a separate sheet) to provide information on other metals requested by the permit writer.											

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POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
VOLATILE ORGANIC COMPOUNDS.											
ACROLEIN											
ACRYLONITRILE											
BENZENE											
BROMOFORM											
CARBON TETRACHLORIDE											
CLOROBENZENE											
CHLORODIBROMO-METHANE											
CHLOROETHANE											
2-CHLORO-ETHYLVINYL ETHER											
CHLOROFORM											
DICHLOROBROMO-METHANE											
1,1-DICHLOROETHANE											
1,2-DICHLOROETHANE											
TRANS-1,2-DICHLORO-ETHYLENE											
1,1-DICHLOROETHYLENE											
1,2-DICHLOROPROPANE											
1,3-DICHLORO-PROPYLENE											
ETHYLBENZENE											
METHYL BROMIDE											
METHYL CHLORIDE											
METHYLENE CHLORIDE											
1,1,2,2-TETRACHLORO-ETHANE											
TETRACHLORO-ETHYLENE											
TOLUENE											

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POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
1,1,1-TRICHLOROETHANE											
1,1,2-TRICHLOROETHANE											
TRICHLORETHYLENE											
VINYL CHLORIDE											
Use this space (or a separate sheet) to provide information on other volatile organic compounds requested by the permit writer.											
ACID-EXTRACTABLE COMPOUNDS											
P-CHLORO-M-CRESOL											
2-CHLOROPHENOL											
2,4-DICHLOROPHENOL											
2,4-DIMETHYLPHENOL											
4,6-DINITRO-O-CRESOL											
2,4-DINITROPHENOL											
2-NITROPHENOL											
4-NITROPHENOL											
PENTACHLOROPHENOL											
PHENOL											
2,4,6-TRICHLOROPHENOL											
Use this space (or a separate sheet) to provide information on other acid-extractable compounds requested by the permit writer.											
BASE-NEUTRAL COMPOUNDS.											
ACENAPHTHENE											
ACENAPHTHYLENE											
ANTHRACENE											
BENZIDINE											
BENZO(A)ANTHRACENE											
BENZO(A)PYRENE											

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POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
3,4 BENZO-FLUORANTHENE											
BENZO(GHI)PERYLENE											
BENZO(K)FLUORANTHENE											
BIS (2-CHLOROETHOXY) METHANE											
BIS (2-CHLOROETHYL)-ETHER											
BIS (2-CHLOROISO-PROPYL) ETHER											
BIS (2-ETHYLHEXYL) PHTHALATE											
4-BROMOPHENYL PHENYL ETHER											
BUTYL BENZYL PHTHALATE											
2-CHLORONAPHTHALENE											
4-CHLORPHENYL PHENYL ETHER											
CHRYSENE											
DI-N-BUTYL PHTHALATE											
DI-N-OCTYL PHTHALATE											
DIBENZO(A,H) ANTHRACENE											
1,2-DICHLOROBENZENE											
1,3-DICHLOROBENZENE											
1,4-DICHLOROBENZENE											
3,3-DICHLOROBENZIDINE											
DIETHYL PHTHALATE											
DIMETHYL PHTHALATE											
2,4-DINITROTOLUENE											
2,6-DINITROTOLUENE											
1,2-DIPHENYLHYDRAZINE											

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Outfall number: 001 (Complete once for each outfall discharging effluent to waters of the United States.)

POLLUTANT	MAXIMUM DAILY DISCHARGE				AVERAGE DAILY DISCHARGE					ANALYTICAL METHOD	ML/ MDL
	Conc.	Units	Mass	Units	Conc.	Units	Mass	Units	Number of Samples		
FLUORANTHENE											
FLUORENE											
HEXACHLOROBENZENE											
HEXACHLOROBUTADIENE											
HEXACHLOROCYCLO-PENTADIENE											
HEXACHLOROETHANE											
INDENO(1,2,3-CD)PYRENE											
ISOPHORONE											
NAPHTHALENE											
NITROBENZENE											
N-NITROSODI-N-PROPYLAMINE											
N-NITROSODI- METHYLAMINE											
N-NITROSODI-PHENYLAMINE											
PHENANTHRENE											
PYRENE											
1,2,4-TRICHLOROBENZENE											
Use this space (or a separate sheet) to provide information on other base-neutral compounds requested by the permit writer.											
Use this space (or a separate sheet) to provide information on other pollutants (e.g., pesticides) requested by the permit writer.											

END OF PART D.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

SUPPLEMENTAL APPLICATION INFORMATION

PART E. TOXICITY TESTING DATA

POTWs meeting one or more of the following criteria must provide the results of whole effluent toxicity tests for acute or chronic toxicity for each of the facility's discharge points: 1) POTWs with a design flow rate greater than or equal to 1.0 mgd; 2) POTWs with a pretreatment program (or those that are required to have one under 40 CFR Part 403); or 3) POTWs required by the permitting authority to submit data for these parameters.

- At a minimum, these results must include quarterly testing for a 12-month period within the past 1 year using multiple species (minimum of two species), or the results from four tests performed at least annually in the four and one-half years prior to the application, provided the results show no appreciable toxicity, and testing for acute and/or chronic toxicity, depending on the range of receiving water dilution. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136.
- In addition, submit the results of any other whole effluent toxicity tests from the past four and one-half years. If a whole effluent toxicity test conducted during the past four and one-half years revealed toxicity, provide any information on the cause of the toxicity or any results of a toxicity reduction evaluation, if one was conducted.
- If you have already submitted any of the information requested in Part E, you need not submit it again. Rather, provide the information requested in question E.4 for previously submitted information. If EPA methods were not used, report the reasons for using alternate methods. If test summaries are available that contain all of the information requested below, they may be submitted in place of Part E.

If no biomonitoring data is required, do not complete Part E. Refer to the Application Overview for directions on which other sections of the form to complete.

E.1. Required Tests.

Indicate the number of whole effluent toxicity tests conducted in the past four and one-half years.

____chronic ____acute

E.2. Individual Test Data. Complete the following chart for each whole effluent toxicity test conducted in the last four and one-half years. Allow one column per test (where each species constitutes a test). Copy this page if more than three tests are being reported.

Test number: 1/12 Test number: 12/12 Test number: 11/13

a. Test information. Previously submitted on 10 Jan 12, 10 Dec 12 and 8 Nov 13

Test species & test method number			
Age at initiation of test			
Outfall number			
Dates sample collected			
Date test started			
Duration			
b. Give toxicity test methods followed.			
Manual title			
Edition number and year of publication			
Page number(s)			
c. Give the sample collection method(s) used. For multiple grab samples, indicate the number of grab samples used.			
24-Hour composite			
Grab			
d. Indicate where the sample was taken in relation to disinfection. (Check all that apply for each)			
Before disinfection			
After disinfection			
After dechlorination			

	Test number:_____	Test number:_____	Test number:_____
e. Describe the point in the treatment process at which the sample was collected.			
Sample was collected:			
f. For each test, include whether the test was intended to assess chronic toxicity, acute toxicity, or both.			
Chronic toxicity			
Acute toxicity			
g. Provide the type of test performed.			
Static			
Static-renewal			
Flow-through			
h. Source of dilution water. If laboratory water, specify type; if receiving water, specify source.			
Laboratory water			
Receiving water			
i. Type of dilution water. It salt water, specify "natural" or type of artificial sea salts or brine used.			
Fresh water			
Salt water			
j. Give the percentage effluent used for all concentrations in the test series.			
k. Parameters measured during the test. (State whether parameter meets test method specifications)			
pH			
Salinity			
Temperature			
Ammonia			
Dissolved oxygen			
l. Test Results.			
Acute:			
Percent survival in 100% effluent	%	%	%
LC_{50}			
95% C.I.	%	%	%
Control percent survival	%	%	%
Other (describe)			

Chronic:			
NOEC	%	%	%
IC_{25}	%	%	%
Control percent survival	%	%	%
Other (describe)			

m. Quality Control/Quality Assurance.

Is reference toxicant data available?			
Was reference toxicant test within acceptable bounds?			
What date was reference toxicant test run (MM/DD/YYYY)?			
Other (describe)			

E.3. Toxicity Reduction Evaluation. Is the treatment works involved in a Toxicity Reduction Evaluation?

___Yes ✓ No If yes, describe: _____

_____

_____

E.4. Summary of Submitted Biomonitoring Test Information. If you have submitted biomonitoring test information, or information regarding the cause of toxicity, within the past four and one-half years, provide the dates the information was submitted to the permitting authority and a summary of the results.

Date submitted: _____ (MM/DD/YYYY)

Summary of results: (see instructions)

_____

_____

END OF PART E.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE.

SUPPLEMENTAL APPLICATION INFORMATION

PART F. INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES

All treatment works receiving discharges from significant industrial users or which receive RCRA, CERCLA, or other remedial wastes must complete Part F.

GENERAL INFORMATION:

F.1. Pretreatment Program. Does the treatment works have, or is it subject to, an approved pretreatment program?

✓ Yes ___ No

F.2. Number of Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs). Provide the number of each of the following types of industrial users that discharge to the treatment works.

a. Number of non-categorical SIUs. 3

b. Number of CIUs. 1

SIGNIFICANT INDUSTRIAL USER INFORMATION:

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

F.3. Significant Industrial User Information. Provide the name and address of each SIU discharging to the treatment works. Submit additional pages as necessary.

Name: Paul Decorative Products, Inc.

Mailing Address: 195 Duke Street
Louisa, VA 23093

F.4. Industrial Processes. Describe all of the industrial processes that affect or contribute to the SIU's discharge.

Manufacture plumbing fixtures & fittings. Electroplating, plating and polishing.

F.5. Principal Product(s) and Raw Material(s). Describe all of the principal processes and raw materials that affect or contribute to the SIU's discharge.

Principal product(s): plumbing fixtures and fittings

Raw material(s): zinc, brass, gold, nickel

F.6. Flow Rate.

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

1200 gpd (___ continuous or ✓ intermittent)

b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

200 gpd (___ continuous or ✓ intermittent)

F.7. Pretreatment Standards. Indicate whether the SIU is subject to the following:

a. Local limits ✓ Yes ___ No

b. Categorical pretreatment standards ✓ Yes ___ No

If subject to categorical pretreatment standards, which category and subcategory?

40 CFR 413, Electroplating; 40 CFR 433, Metal Finishing

SUPPLEMENTAL APPLICATION INFORMATION

PART F. INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES

All treatment works receiving discharges from significant industrial users or which receive RCRA, CERCLA, or other remedial wastes must complete Part F.

GENERAL INFORMATION:

F.1. Pretreatment Program. Does the treatment works have, or is it subject to, an approved pretreatment program?

✓ Yes ___ No

F.2. Number of Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs). Provide the number of each of the following types of industrial users that discharge to the treatment works.

a. Number of non-categorical SIUs. 3

b. Number of CIUs. 1

SIGNIFICANT INDUSTRIAL USER INFORMATION:

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

F.3. Significant Industrial User Information. Provide the name and address of each SIU discharging to the treatment works. Submit additional pages as necessary.

Name: Piedmont Metal Fabricators, Inc.

Mailing Address: 119 Jefferson Hwy
Louisa, VA 23093

F.4. Industrial Processes. Describe all of the industrial processes that affect or contribute to the SIU's discharge.

Sheet metal work

F.5. Principal Product(s) and Raw Material(s). Describe all of the principal processes and raw materials that affect or contribute to the SIU's discharge.

Principal product(s): sheet metal products

Raw material(s): steel sheet

F.6. Flow Rate.

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

450 gpd (___ continuous or ✓ intermittent)

b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

60 gpd (___ continuous or ✓ intermittent)

F.7. Pretreatment Standards. Indicate whether the SIU is subject to the following:

a. Local limits ✓ Yes ___ No

b. Categorical pretreatment standards ___ Yes ✓ No

If subject to categorical pretreatment standards, which category and subcategory?

SUPPLEMENTAL APPLICATION INFORMATION

PART F. INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES

All treatment works receiving discharges from significant industrial users or which receive RCRA, CERCLA, or other remedial wastes must complete Part F.

GENERAL INFORMATION:

F.1. Pretreatment Program. Does the treatment works have, or is it subject to, an approved pretreatment program?

✓ Yes ___ No

F.2. Number of Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs). Provide the number of each of the following types of industrial users that discharge to the treatment works.

a. Number of non-categorical SIUs. 3

b. Number of CIUs. 1

SIGNIFICANT INDUSTRIAL USER INFORMATION:

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

F.3. Significant Industrial User Information. Provide the name and address of each SIU discharging to the treatment works. Submit additional pages as necessary.

Name: Busada Manufacturing Corporation

Mailing Address: 78 Rescue Lane
Louisa, VA 23093

F.4. Industrial Processes. Describe all of the industrial processes that affect or contribute to the SIU's discharge.

Assembly of sheet and plate laminated plastics

F.5. Principal Product(s) and Raw Material(s). Describe all of the principal processes and raw materials that affect or contribute to the SIU's discharge.

Principal product(s): tubes, boxes and other non-packaging plastics

Raw material(s): plastic

F.6. Flow Rate.

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

0 gpd (___continuous or ___intermittent)

b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

500 gpd (___continuous or ✓ intermittent)

F.7. Pretreatment Standards. Indicate whether the SIU is subject to the following:

a. Local limits ___Yes ✓ No

b. Categorical pretreatment standards ___Yes ✓ No

If subject to categorical pretreatment standards, which category and subcategory?

SUPPLEMENTAL APPLICATION INFORMATION

PART F. INDUSTRIAL USER DISCHARGES AND RCRA/CERCLA WASTES

All treatment works receiving discharges from significant industrial users or which receive RCRA, CERCLA, or other remedial wastes must complete Part F.

GENERAL INFORMATION:

F.1. Pretreatment Program. Does the treatment works have, or is it subject to, an approved pretreatment program?

✓ Yes ___ No

F.2. Number of Significant Industrial Users (SIUs) and Categorical Industrial Users (CIUs). Provide the number of each of the following types of industrial users that discharge to the treatment works.

a. Number of non-categorical SIUs. 3

b. Number of CIUs. 1

SIGNIFICANT INDUSTRIAL USER INFORMATION:

Supply the following information for each SIU. If more than one SIU discharges to the treatment works, copy questions F.3 through F.8 and provide the information requested for each SIU.

F.3. Significant Industrial User Information. Provide the name and address of each SIU discharging to the treatment works. Submit additional pages as necessary.

Name: Tetra Pak Tubex

Mailing Address: P.O. Box 1547
Louisa, VA 23093

F.4. Industrial Processes. Describe all of the industrial processes that affect or contribute to the SIU's discharge.

Plastic straw extrusion

F.5. Principal Product(s) and Raw Material(s). Describe all of the principal processes and raw materials that affect or contribute to the SIU's discharge.

Principal product(s): straws

Raw material(s): plastic

F.6. Flow Rate.

a. Process wastewater flow rate. Indicate the average daily volume of process wastewater discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

0 gpd (___continuous or ___intermittent)

b. Non-process wastewater flow rate. Indicate the average daily volume of non-process wastewater flow discharged into the collection system in gallons per day (gpd) and whether the discharge is continuous or intermittent.

1500 gpd (✓ continuous or ___intermittent)

F.7. Pretreatment Standards. Indicate whether the SIU is subject to the following:

a. Local limits ___Yes ✓ No

b. Categorical pretreatment standards ___Yes ✓ No

If subject to categorical pretreatment standards, which category and subcategory?

F.8. Problems at the Treatment Works Attributed to Waste Discharged by the SIU. Has the SIU caused or contributed to any problems (e.g., upsets, interference) at the treatment works in the past three years?

____Yes ✓ No If yes, describe each episode.

RCRA HAZARDOUS WASTE RECEIVED BY TRUCK, RAIL, OR DEDICATED PIPELINE:

F.9. RCRA Waste. Does the treatment works receive or has it in the past three years received RCRA hazardous waste by truck, rail, or dedicated pipe? ____Yes ✓ No (go to F.12.)

F.10. Waste Transport. Method by which RCRA waste is received (check all that apply):

_____Truck _____Rail _____Dedicated Pipe

F.11. Waste Description. Give EPA hazardous waste number and amount (volume or mass, specify units).

EPA Hazardous Waste Number	Amount	Units

CERCLA (SUPERFUND) WASTEWATER, RCRA REMEDIATION/CORRECTIVE ACTION WASTEWATER, AND OTHER REMEDIAL ACTIVITY WASTEWATER:

F.12. Remediation Waste. Does the treatment works currently (or has it been notified that it will) receive waste from remedial activities?

____Yes (complete F.13 through F.15.) ✓ No

Provide a list of sites and the requested information (F.13 - F.15.) for each current and future site.

F.13. Waste Origin. Describe the site and type of facility at which the CERCLA/RCRA/or other remedial waste originates (or is expected to originate in the next five years).

F.14. Pollutants. List the hazardous constituents that are received (or are expected to be received). Include data on volume and concentration, if known. (Attach additional sheets if necessary).

F.15. Waste Treatment.

a. Is this waste treated (or will it be treated) prior to entering the treatment works?

____Yes ____No

If yes, describe the treatment (provide information about the removal efficiency):

b. Is the discharge (or will the discharge be) continuous or intermittent?

____Continuous ____Intermittent If intermittent, describe discharge schedule.

END OF PART F.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

SUPPLEMENTAL APPLICATION INFORMATION

PART G. COMBINED SEWER SYSTEMS

If the treatment works has a combined sewer system, complete Part G.

G.1. System Map. Provide a map indicating the following: (may be included with Basic Application Information)

a. All CSO discharge points.

b. Sensitive use areas potentially affected by CSOs (e.g., beaches, drinking water supplies, shellfish beds, sensitive aquatic ecosystems, and outstanding natural resource waters).

c. Waters that support threatened and endangered species potentially affected by CSOs.

G.2. System Diagram. Provide a diagram, either in the map provided in G.1. or on a separate drawing, of the combined sewer collection system that includes the following information:

a. Locations of major sewer trunk lines, both combined and separate sanitary.

b. Locations of points where separate sanitary sewers feed into the combined sewer system.

c. Locations of in-line and off-line storage structures.

d. Locations of flow-regulating devices.

e. Locations of pump stations.

CSO OUTFALLS:

Complete questions G.3 through G.6 once for each CSO discharge point.

G.3. Description of Outfall.

a. Outfall number _____

b. Location

_____
(City or town, if applicable) (Zip Code)

_____
(County) (State)

_____
(Latitude) (Longitude)

c. Distance from shore (if applicable) _____ ft.

d. Depth below surface (if applicable) _____ ft.

e. Which of the following were monitored during the last year for this CSO?

____Rainfall ____CSO pollutant concentrations ____CSO frequency

____CSO flow volume ____Receiving water quality

f. How many storm events were monitored during the last year? _____

G.4. CSO Events.

a. Give the number of CSO events in the last year.

_____ events (___ actual or ___ approx.)

b. Give the average duration per CSO event.

_____ hours (____ actual or ____ approx.)

c. Give the average volume per CSO event.

_____ million gallons (_____ actual or _____ approx.)

d. Give the minimum rainfall that caused a CSO event in the last year.

_____ inches of rainfall

G.5. Description of Receiving Waters.

a. Name of receiving water: _____

b. Name of watershed/river/stream system: _____

United States Soil Conservation Service 14-digit watershed code (if known): _____

c. Name of State Management/River Basin: _____

United States Geological Survey 8-digit hydrologic cataloging unit code (if known): _____

G.6. CSO Operations.

Describe any known water quality impacts on the receiving water caused by this CSO (e.g., permanent or intermittent beach closings, permanent or intermittent shell fish bed closings, fish kills, fish advisories, other recreational loss, or violation of any applicable State water quality standard).

_____

_____

END OF PART G.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE.

Additional information, if provided, will appear on the following pages.

1. ESS Analytical Report, 04/04/2014
2. ESS Analytical Report, 04/16/2014
3. ESS Analytical Report, 05/15/2014
4. VPDES Permit Application Addendum
5. Flow Diagram
6. Public Notice Billing Authorization

Environmental Systems Service, Ltd.

218 North Main St. ♦ P.O. Box 520 ♦ Culpeper, Virginia 22701 ♦ Tel: (540) 825-6660 ♦ Fax (540) 825-4961 ♦ <www.ess-services.com>

Analytical Report

Louisa County Water Authority
Regional Effluent
P. O. Box 9
Louisa, VA 23093

Report Date:	04/04/2014
Job #:	R000437
Customer #:	7011RE
Customer PO #:	
Collected By:	Customer
Sample Location:	Regional STP

The test results submitted in this report relate only to the samples submitted and as received by Environmental Systems Service, Ltd (ESS).

ESS assumes no responsibility, express or implied, as to the interpretation of the analytical results contained in this report.

The signature on the final report certifies that these results conform to all applicable NELAC standards unless otherwise noted.

This laboratory report may not be reproduced, except in full, without the written approval of ESS.

If you have received this report in error, please notify ESS immediately at (540) 825-6660.

Approved by: Angie Woodward

A. Woodward/Technical Director

Reviewers Initials AW

ESS
Environmental Systems Service, Ltd.

Analytical Report

Louisa County Water Authority
Regional Effluent
P. O. Box 9
Louisa, VA 23093

Report Date: 04/04/2014
Job #: R000437
Customer #: 7011RE
Customer PO #:
Collected By: Customer
Sample Location: Regional STP

Sample ID#: 0031570 **Sample Source:** Effluent
Sample Date/Time: 03/18/2014 / 13:35 **Date Received:** 03/18/2014

Parameter	Results	Unit	Report Limit	Method	Analysis Date	Time	INIT
Antimony, Total Recoverable	<0.0100	mg/l	0.0100	EPA 200.8	03/24/2014	10:28	574
Arsenic, Total Recoverable	<0.0100	mg/l	0.0100	EPA 200.8	03/24/2014	10:28	574
Beryllium, Total Recoverable	<0.00100	mg/l	0.00100	EPA 200.8	03/24/2014	10:28	574
Cadmium, Total Recoverable	<0.00250	mg/l	0.00250	EPA 200.8	03/24/2014	10:28	574
Chromium, Total Recoverable	<0.00500	mg/l	0.00500	EPA 200.8	03/24/2014	10:28	574
Copper, Total Recoverable	0.00367	mg/l	0.00250	EPA 200.8	03/24/2014	10:28	574
Lead, Total Recoverable	<0.00500	mg/l	0.00500	EPA 200.8	03/24/2014	10:28	574
Mercury, Total Recoverable	<0.000200	mg/l	0.000200	EPA 245.2	03/27/2014	14:15	574
Nickel, Total Recoverable	<0.0100	mg/l	0.0100	EPA 200.8	03/24/2014	10:28	574
Selenium, Total Recoverable	<0.0100	mg/l	0.0100	EPA 200.8	03/24/2014	10:28	574
Silver, Total Recoverable	<0.00500	mg/l	0.00500	EPA 200.8	03/24/2014	10:28	574
Thallium, Total Recoverable	<0.00400	mg/l	0.00400	EPA 200.8	03/24/2014	10:28	574
Zinc, Total Recoverable	0.0442	mg/l	0.0100	EPA 200.8	03/24/2014	10:28	574
Total Cyanide	<0.005	mg/l	0.005	EPA 335.4	03/26/2014	13:58	013
Phenols, Total	<0.02	mg/l	0.02	EPA 420.4	03/25/2014	16:32	013
Total Hardness as CaCO3	65.5	mg/l	2.00	SM 2340 C-2011	03/18/2014	12:00	KW
625 Semi-Volatiles							
Acenaphthene	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
Acenaphthylene	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
Anthracene	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
Benzidine	<0.0200	mg/l	0.0200	EPA 625	03/24/2014	16:11	574
Benzo(a)anthracene	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
Benzo(a)pyrene	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
Benzo(b)fluoranthene	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
Benzo(ghi)perylene	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
Benzo(k)fluoranthene	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
4-Bromophenyl phenyl ether	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
Butylbenzyl Phthalate	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
4-Chloro-3-methylphenol	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
Bis(2-Chloroethoxy)methane	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
Bis(2-Chloroethyl)ether	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
Bis(2-Chloroisopropyl)ether	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
2-Chloronaphthalene	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
2-Chlorophenol	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
4-Chlorophenyl phenyl ether	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
Chrysene	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574

Environmental Systems Service, Ltd.

Analytical Report

Louisa County Water Authority
Regional Effluent
P. O. Box 9
Louisa, VA 23093

Report Date: 04/04/2014
Job #: R000437
Customer #: 7011RE
Customer PO #:
Collected By: Customer
Sample Location: Regional STP

Sample ID#: 0031570 **Sample Source:** Effluent
Sample Date/Time: 03/18/2014 / 13:35 **Date Received:** 03/18/2014

Parameter	Results	Unit	Report Limit	Method	Analysis Date	Time	INIT
Di-n-butyl Phthalate	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
Di-n-octyl Phthalate	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
Dibenzo(a,h)anthracene	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
3,3-Dichlorobenzidine	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
2,4-Dichlorophenol	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
Diethyl Phthalate	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
2,4-Dimethylphenol	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
Dimethyl Phthalate	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
2,4-Dinitrophenol	<0.0200	mg/l	0.0200	EPA 625	03/24/2014	16:11	574
2,4-Dinitrotoluene	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
2,6-Dinitrotoluene	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
1,2-Diphenylhydrazine	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
Bis(2-Ethylhexyl)Phthalate	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
Fluoranthene	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
Fluorene	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
Hexachlorobenzene	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
Hexachlorobutadiene	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
Hexachlorocyclopentadiene	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
Hexachloroethane	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
Indeno(1,2,3-cd)pyrene	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
Isophorone	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
4,6-Dinitro-o-cresol	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
Naphthalene	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
Nitrobenzene	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
2-Nitrophenol	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
4-Nitrophenol	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
N-nitrosodimethylamine	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
N-nitrosodi-n-propylamine	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
N-nitrosodiphenylamine	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
Pentachlorophenol	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
Phenanthrene	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
Phenol	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
Pyrene	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
1,2,4-Trichlorobenzene	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
2,4,6-Trichlorophenol	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574
2,3,7,8-Tetrachlorodibenzodiox	<0.0100	mg/l	0.0100	EPA 625	03/24/2014	16:11	574

Environmental Systems Service, Ltd.

Analytical Report

Louisa County Water Authority
Regional Effluent
P. O. Box 9
Louisa, VA 23093

Report Date: 04/04/2014
Job #: R000437
Customer #: 7011RE
Customer PO #:
Collected By: Customer
Sample Location: Regional STP

Sample ID#: 0031570 **Sample Source:** Effluent
Sample Date/Time: 03/18/2014 / 13:35 **Date Received:** 03/18/2014

Parameter	Results	Unit	Report Limit	Method	Analysis Date	Time	INIT
624 Volatiles							
Acrolein	<0.00500	mg/l	0.00500	EPA 624	03/24/2014	13:11	574
Acrylonitrile	<0.00200	mg/l	0.00200	EPA 624	03/24/2014	13:11	574
Benzene	<0.00200	mg/l	0.00200	EPA 624	03/24/2014	13:11	574
Dichlorobromomethane	<0.00200	mg/l	0.00200	EPA 624	03/24/2014	13:11	574
Bromoform	<0.00200	mg/l	0.00200	EPA 624	03/24/2014	13:11	574
Bromomethane	<0.00200	mg/l	0.00200	EPA 624	03/24/2014	13:11	574
Carbon Tetrachloride	<0.00200	mg/l	0.00200	EPA 624	03/24/2014	13:11	574
Chlorobenzene	<0.00200	mg/l	0.00200	EPA 624	03/24/2014	13:11	574
Chlorodibromomethane	<0.00200	mg/l	0.00200	EPA 624	03/24/2014	13:11	574
Chloroethane	<0.00200	mg/l	0.00200	EPA 624	03/24/2014	13:11	574
2-Chloroethylvinylether	<0.0100	mg/l	0.0100	EPA 624	03/24/2014	13:11	574
Chloroform	<0.00200	mg/l	0.00200	EPA 624	03/24/2014	13:11	574
Chloromethane	<0.00200	mg/l	0.00200	EPA 624	03/24/2014	13:11	574
1,2-Dichlorobenzene	<0.00200	mg/l	0.00200	EPA 624	03/24/2014	13:11	574
1,3-Dichlorobenzene	<0.00200	mg/l	0.00200	EPA 624	03/24/2014	13:11	574
1,4-Dichlorobenzene	<0.00200	mg/l	0.00200	EPA 624	03/24/2014	13:11	574
1,1-Dichloroethane	<0.00200	mg/l	0.00200	EPA 624	03/24/2014	13:11	574
1,2-Dichloroethane	<0.00200	mg/l	0.00200	EPA 624	03/24/2014	13:11	574
1,1-Dichloroethene	<0.00200	mg/l	0.00200	EPA 624	03/24/2014	13:11	574
trans-1,2-Dichloroethene	<0.00200	mg/l	0.00200	EPA 624	03/24/2014	13:11	574
1,2-Dichloropropane	<0.00200	mg/l	0.00200	EPA 624	03/24/2014	13:11	574
cis-1,3-Dichloropropene	<0.00200	mg/l	0.00200	EPA 624	03/24/2014	13:11	574
trans-1,3-Dichloropropene	<0.00200	mg/l	0.00200	EPA 624	03/24/2014	13:11	574
Ethylbenzene	<0.00200	mg/l	0.00200	EPA 624	03/24/2014	13:11	574
Methylene Chloride	<0.0100	mg/l	0.0100	EPA 624	03/24/2014	13:11	574
1,1,2,2-Tetrachloroethane	<0.00200	mg/l	0.00200	EPA 624	03/24/2014	13:11	574
Tetrachloroethene	<0.00200	mg/l	0.00200	EPA 624	03/24/2014	13:11	574
Toluene	<0.00200	mg/l	0.00200	EPA 624	03/24/2014	13:11	574
1,1,1-Trichloroethane	<0.00200	mg/l	0.00200	EPA 624	03/24/2014	13:11	574
1,1,2-Trichloroethane	<0.00200	mg/l	0.00200	EPA 624	03/24/2014	13:11	574
Trichloroethene	<0.00200	mg/l	0.00200	EPA 624	03/24/2014	13:11	574
Trichlorofluoromethane	<0.00200	mg/l	0.00200	EPA 624	03/24/2014	13:11	574
Vinyl Chloride	<0.00200	mg/l	0.00200	EPA 624	03/24/2014	13:11	574

Environmental Systems Service, Ltd.

Analytical Report

Louisa County Water Authority
Regional Effluent
P. O. Box 9
Louisa, VA 23093

Report Date:	04/04/2014
Job #:	R000437
Customer #:	7011RE
Customer PO #:	
Collected By:	Customer
Sample Location:	Regional STP

574 Samples subcontracted to VELAP ID# 460160
013 Samples subcontracted to VELAP ID# 460013

SAMPLE CHAIN OF CUSTODY RECORD

Company _ Louisa County Water Authority
Contact _____
Address _____
Address _____
Phone _____

ENVIRONMENTAL SYSTEMS SERVICE, LTD.

www.ess-services.com

218 North Main St.
Post Office Box 520
Culpeper, VA 22701
800-541-2116
540-825-6660 Fax: 540-825-4961

500 Stone St.
Post Office Box 736
Bedford, VA 24523
540-586-5413
Fax 540-586-5530

Project Name/Site Regional STP **P.O.#** _____

Sampled By: Kyle Mootz (Print Name) _____ (Signature)

ESS SAMPLE ID.	COLLECTION DATE	TIME	SAMPLE LOCATION	CONTAINERS SIZE	G/P	#	GRAB	COMP	SAMPLE MATRIX	PRESERVATIVE	ANALYSES (1) Metals*	(2) Cyanide	(3) EPA 625 Semi-Vol.	(4) EPA 624 Vol.	(5) Phenol	(6) Hardness				COMMENTS
31570	3/18/14	1335	Effluent	250ml	P	1	X		ww	HN03	X									*Sb,As,Be,Cd
	3/18/14	1335		250ml	P	1	X		ww	NaOH		X								Cr,Cu,Pb,Hg
	3/18/14	1335		1L	G	2	X		ww	none			X							Ni,Se,Ag
	3/18/14	1335		40ml	G	3	X		ww	HCL				X						Tl, Zn
	3/18/14	1335		1L	G	1	X		ww	H2SO4					X					
	3/18/14	1335		250ml	P	1	X		ww	HN03						X				
																				Preservative
																				pH Check:
																				<2
																				7/2

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
	3/18/14	14:36	Alvin Beahm	Alvin Beahm	3/18/14	15:19	
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received for Laboratory by:
					3/18/14	1519	

Method of Delivery:
☐ UPS ☐ Fed Ex ☒ Hand Delivery
☐ UPS Overnight ☐ Post Office

On Ice? Y N
Received @ 2.2 C
☐ Under 2 hours

TAT:
Normal _____ Rush _____
Need Results by _____
Extra charges will apply for Rush TAT.

W.O.# R000437
W.O.# _____

Amt Paid $_____
Check # _____

Revised 3/13/14

"OK"

218 North Main St. ♦ P.O. Box 520 ♦ Culpeper, Virginia 22701 ♦ Tel: (540) 825-6660 ♦ Fax (540) 825-4961 ♦ <www.ess-services.com>

Analytical Report

Louisa County Water Authority
Regional Effluent
P. O. Box 9
Louisa, VA 23093

Report Date:	04/16/2014
Job #:	R000456
Customer #:	7011RE
Customer PO #:	
Collected By:	Customer
Sample Location:	Regional STP

The test results submitted in this report relate only to the samples submitted and as received by Environmental Systems Service, Ltd (ESS).

ESS assumes no responsibility, express or implied, as to the interpretation of the analytical results contained in this report.

The signature on the final report certifies that these results conform to all applicable NELAC standards unless otherwise noted.

This laboratory report may not be reproduced, except in full, without the written approval of ESS.

If you have received this report in error, please notify ESS immediately at (540) 825-6660.

Approved by: Angie Woodward

A. Woodward/Technical Director

Reviewers Initials AW

Environmental Systems Service, Ltd.

Analytical Report

Louisa County Water Authority
Regional Effluent
P. O. Box 9
Louisa, VA 23093

Report Date: 04/16/2014
Job #: R000456
Customer #: 7011RE
Customer PO #:
Collected By: Customer
Sample Location: Regional STP

Sample ID#: 0032257 **Sample Source:** Effluent
Sample Date/Time: 04/01/2014 / 12:45 **Date Received:** 04/01/2014

Parameter	Results	Unit	Report Limit	Method	Analysis Date	Time	INIT
Antimony, Total Recoverable	<0.0100	mg/l	0.0100	EPA 200.8	04/07/2014	09:58	574
Arsenic, Total Recoverable	<0.0100	mg/l	0.0100	EPA 200.8	04/07/2014	09:58	574
Beryllium, Total Recoverable	<0.00100	mg/l	0.00100	EPA 200.8	04/07/2014	09:58	574
Cadmium, Total Recoverable	<0.00250	mg/l	0.00250	EPA 200.8	04/07/2014	09:58	574
Chromium, Total Recoverable	<0.00500	mg/l	0.00500	EPA 200.8	04/07/2014	09:58	574
Copper, Total Recoverable	<0.00500	mg/l	0.00500	EPA 200.8	04/07/2014	09:58	574
Lead, Total Recoverable	<0.00500	mg/l	0.00500	EPA 200.8	04/07/2014	09:58	574
Mercury, Total Recoverable	<0.000200	mg/l	0.000200	EPA 245.2	04/08/2014	11:54	574
Nickel, Total Recoverable	<0.0100	mg/l	0.0100	EPA 200.8	04/07/2014	09:58	574
Selenium, Total Recoverable	<0.0100	mg/l	0.0100	EPA 200.8	04/07/2014	09:58	574
Silver, Total Recoverable	<0.00500	mg/l	0.00500	EPA 200.8	04/07/2014	09:58	574
Thallium, Total Recoverable	<0.00400	mg/l	0.00400	EPA 200.8	04/07/2014	09:58	574
Zinc, Total Recoverable	0.0314	mg/l	0.0100	EPA 200.8	04/07/2014	09:58	574
Total Cyanide	<0.005	mg/l	0.005	EPA 335.4	04/08/2014	12:14	013
Phenols, Total	<0.02	mg/l	0.02	EPA 420.4	04/07/2014	16:37	013
Total Hardness as CaCO3	59.4	mg/l	2.00	SM 2340 C-2011	04/05/2014	07:15	KW
625 Semi-Volatiles							574
Acenaphthene	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
Acenaphthylene	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
Anthracene	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
Benzidine	<0.0206	mg/l	0.0206	EPA 625	04/08/2014	16:00	574
Benzo(a)anthracene	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
Benzo(a)pyrene	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
Benzo(b)fluoranthene	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
Benzo(ghi)perylene	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
Benzo(k)fluoranthene	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
4-Bromophenyl phenyl ether	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
Butylbenzyl Phthalate	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
4-Chloro-3-methylphenol	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
Bis(2-Chloroethoxy)methane	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
Bis(2-Chloroethyl)ether	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
Bis(2-Chloroisopropyl)ether	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
2-Chloronaphthalene	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
2-Chlorophenol	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
4-Chlorophenyl phenyl ether	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
Chrysene	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
Di-n-butyl Phthalate	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574

Environmental Systems Service, Ltd.

Analytical Report

Louisa County Water Authority
Regional Effluent
P. O. Box 9
Louisa, VA 23093

Report Date: 04/16/2014
Job #: R000456
Customer #: 7011RE
Customer PO #:
Collected By: Customer
Sample Location: Regional STP

Sample ID#: 0032257 **Sample Source:** Effluent
Sample Date/Time: 04/01/2014 / 12:45 **Date Received:** 04/01/2014

Parameter	Results	Unit	Report Limit	Method	Analysis Date	Time	INIT
Di-n-octyl Phthalate	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
Dibenzo(a,h)anthracene	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
3,3-Dichlorobenzidine	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
2,4-Dichlorophenol	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
Diethyl Phthalate	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
2,4-Dimethylphenol	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
Dimethyl Phthalate	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
2,4-Dinitrophenol	<0.0206	mg/l	0.0206	EPA 625	04/08/2014	16:00	574
2,4-Dinitrotoluene	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
2,6-Dinitrotoluene	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
1,2-Diphenylhydrazine	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
Bis(2-Ethylhexyl)Phthalate	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
Fluoranthene	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
Fluorene	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
Hexachlorobenzene	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
Hexachlorobutadiene	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
Hexachlorocyclopentadiene	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
Hexachloroethane	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
Indeno(1,2,3-cd)pyrene	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
Isophorone	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
4,6-Dinitro-o-cresol	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
Naphthalene	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
Nitrobenzene	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
2-Nitrophenol	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
4-Nitrophenol	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
N-nitrosodimethylamine	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
N-nitrosodi-n-propylamine	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
N-nitrosodiphenylamine	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
Pentachlorophenol	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
Phenanthrene	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
Phenol	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
Pyrene	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
1,2,4-Trichlorobenzene	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
2,4,6-Trichlorophenol	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
2,3,7,8-Tetrachlorodibenzodiox	<0.0103	mg/l	0.0103	EPA 625	04/08/2014	16:00	574
624 Volatiles							574
Acrolein	<0.00500	mg/l	0.00500	EPA 624	04/10/2014	17:02	574

Environmental Systems Service, Ltd.

Analytical Report

Louisa County Water Authority
Regional Effluent
P. O. Box 9
Louisa, VA 23093

Report Date: 04/16/2014
Job #: R000456
Customer #: 7011RE
Customer PO #:
Collected By: Customer
Sample Location: Regional STP

Sample ID#: 0032257 **Sample Source:** Effluent
Sample Date/Time: 04/01/2014 / 12:45 **Date Received:** 04/01/2014

Parameter	Results	Unit	Report Limit	Method	Analysis Date	Time	INIT
Acrylonitrile	<0.00200	mg/l	0.00200	EPA 624	04/10/2014	17:02	574
Benzene	<0.00200	mg/l	0.00200	EPA 624	04/10/2014	17:02	574
Dichlorobromomethane	<0.00200	mg/l	0.00200	EPA 624	04/10/2014	17:02	574
Bromoform	<0.00200	mg/l	0.00200	EPA 624	04/10/2014	17:02	574
Bromomethane	<0.00200	mg/l	0.00200	EPA 624	04/10/2014	17:02	574
Carbon Tetrachloride	<0.00200	mg/l	0.00200	EPA 624	04/10/2014	17:02	574
Chlorobenzene	<0.00200	mg/l	0.00200	EPA 624	04/10/2014	17:02	574
Chlorodibromomethane	<0.00200	mg/l	0.00200	EPA 624	04/10/2014	17:02	574
Chloroethane	<0.00200	mg/l	0.00200	EPA 624	04/10/2014	17:02	574
2-Chloroethylvinylether	<0.00200	mg/l	0.00200	EPA 624	04/10/2014	17:02	574
Chloroform	0.00203	mg/l	0.00200	EPA 624	04/10/2014	17:02	574
Chloromethane	<0.00200	mg/l	0.00200	EPA 624	04/10/2014	17:02	574
1,2-Dichlorobenzene	<0.00200	mg/l	0.00200	EPA 624	04/10/2014	17:02	574
1,3-Dichlorobenzene	<0.00200	mg/l	0.00200	EPA 624	04/10/2014	17:02	574
1,4-Dichlorobenzene	<0.00200	mg/l	0.00200	EPA 624	04/10/2014	17:02	574
1,1-Dichloroethane	<0.00200	mg/l	0.00200	EPA 624	04/10/2014	17:02	574
1,2-Dichloroethane	<0.00200	mg/l	0.00200	EPA 624	04/10/2014	17:02	574
1,1-Dichloroethene	<0.00200	mg/l	0.00200	EPA 624	04/10/2014	17:02	574
trans-1,2-Dichloroethene	<0.00200	mg/l	0.00200	EPA 624	04/10/2014	17:02	574
1,2-Dichloropropane	<0.00200	mg/l	0.00200	EPA 624	04/10/2014	17:02	574
cis-1,3-Dichloropropene	<0.00200	mg/l	0.00200	EPA 624	04/10/2014	17:02	574
trans-1,3-Dichloropropene	<0.00200	mg/l	0.00200	EPA 624	04/10/2014	17:02	574
Ethylbenzene	<0.00200	mg/l	0.00200	EPA 624	04/10/2014	17:02	574
Methylene Chloride	<0.00200	mg/l	0.00200	EPA 624	04/10/2014	17:02	574
1,1,2,2-Tetrachloroethane	<0.00200	mg/l	0.00200	EPA 624	04/10/2014	17:02	574
Tetrachloroethene	<0.00200	mg/l	0.00200	EPA 624	04/10/2014	17:02	574
Toluene	<0.00200	mg/l	0.00200	EPA 624	04/10/2014	17:02	574
1,1,1-Trichloroethane	<0.00200	mg/l	0.00200	EPA 624	04/10/2014	17:02	574
1,1,2-Trichloroethane	<0.00200	mg/l	0.00200	EPA 624	04/10/2014	17:02	574
Trichloroethene	<0.00200	mg/l	0.00200	EPA 624	04/10/2014	17:02	574
Trichlorofluoromethane	<0.00200	mg/l	0.00200	EPA 624	04/10/2014	17:02	574
Vinyl Chloride	<0.00200	mg/l	0.00200	EPA 624	04/10/2014	17:02	574

574 Samples subcontracted to VELAP ID# 460160
013 Samples subcontracted to VELAP ID# 460013

SAMPLE CHAIN OF CUSTODY RECORD

Company _ Louisa County Water Authority
Contact _____
Address _____
Address _____
Phone _____

ENVIRONMENTAL SYSTEMS SERVICE, LTD.

218 North Main St.
Post Office Box 520
Culpeper, VA 22701
800-541-2116
540-825-6660 Fax: 540-825-4961

500 Stone St.
Post Office Box 736
Bedford, VA 24523
540-586-5413
Fax 540-586-5530

www.ess-services.com

Project Name/Site __ Regional STP **P.O.#** _____

Sampled By: Kyle Moore (Print Name) _____ (Signature)

ESS SAMPLE ID	COLLECTION DATE	TIME	SAMPLE LOCATION	CONTAINERS		#			MATRIX	PRESERVATIVE	ANALYSES (1) Metals*	(2) Cyanide	(3) EPA 625 Semi-Vol	(4) EPA 624 Vol.	(5) Phenol	(6) Hardness				COMMENTS
32257	4/1/14	1245	Effluent	250ml	P	1	X		ww	HN03	X									*Sb,As,Be,Cd
	4/1/14	1245		250ml	P	1	X		ww	NaOH		X								Cr,Cu,Pb,Hg
	4/1/14	1245		1L	G	2	X		ww	none			X							Ni,Se,Ag
	4/1/14	1245		40ml	G	3	X		ww	HCL				X						Tl, Zn
	4/1/14	1245		1L	G	1	X		ww	H2SO4					X					
	4/1/14	1245		250ml	P	1	X		ww	HN03						X				
																				Preservative
																				pH Check:
																				<2
																				>12

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
[signature]	4/1/14	14:06	[signature]	[signature]	4/1/14	15:10	
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received for Laboratory by:
					4/1/14	1510	[signature]

Method of Delivery:
☐ UPS ☐ Fed Ex ☒ Hand Delivery
☐ UPS Overnight ☐ Post Office

On Ice? (Y) N
Received @ 2.6 C
☐ Under 2 hours

TAT:
Normal ____ Rush ____
Need Results by _____
Extra charges will apply for Rush TAT.

W.O.# R000456
W.O.# _____

Amt Paid $_____
Check # _____

Revised 3/13/14

Sample Condition "OK" Upon Receipt

Environmental Systems Service, Ltd.

218 North Main St. ♦ P.O. Box 520 ♦ Culpeper, Virginia 22701 ♦ Tel: (540) 825-6660 ♦ Fax (540) 825-4961 ♦ <www.ess-services.com>

Analytical Report

Louisa County Water Authority
Regional Effluent
P. O. Box 9
Louisa, VA 23093

Report Date:	05/15/2014
Job #:	R000456
Customer #:	7011RE
Customer PO #:	
Collected By:	Customer
Sample Location:	Regional STP

The test results submitted in this report relate only to the samples submitted and as received by Environmental Systems Service, Ltd (ESS).

ESS assumes no responsibility, express or implied, as to the interpretation of the analytical results contained in this report.

The signature on the final report certifies that these results conform to all applicable NELAC standards unless otherwise noted.

This laboratory report may not be reproduced, except in full, without the written approval of ESS.

If you have received this report in error, please notify ESS immediately at (540) 825-6660.

Approved by: Angie Woodward

A. Woodward/Technical Director

Reviewers Initials AW

ESS
Environmental Systems Service, Ltd.

Analytical Report

Louisa County Water Authority
Regional Effluent
P. O. Box 9
Louisa, VA 23093

Report Date: 05/15/2014
Job #: R000456
Customer #: 7011RE
Customer PO #:
Collected By: Customer
Sample Location: Regional STP

Sample ID#: 0032983 **Sample Source:** Effluent
Sample Date/Time: 04/16/2014 / 13:15 **Date Received:** 04/16/2014

Parameter	Results	Unit	Report Limit	Method	Analysis Date	Time	INIT
Antimony, Total Recoverable	<0.0100	mg/l	0.0100	EPA 200.8	04/22/2014	08:45	574
Arsenic, Total Recoverable	<0.0100	mg/l	0.0100	EPA 200.8	04/22/2014	08:45	574
Beryllium, Total Recoverable	<0.00100	mg/l	0.00100	EPA 200.8	04/22/2014	08:45	574
Cadmium, Total Recoverable	<0.00250	mg/l	0.00250	EPA 200.8	04/22/2014	08:45	574
Chromium, Total Recoverable	<0.00500	mg/l	0.00500	EPA 200.8	04/22/2014	08:45	574
Copper, Total Recoverable	<0.00500	mg/l	0.00500	EPA 200.8	04/22/2014	08:45	574
Lead, Total Recoverable	<0.00500	mg/l	0.00500	EPA 200.8	04/22/2014	08:45	574
Mercury, Total Recoverable	<0.000200	mg/l	0.000200	EPA 245.2	04/24/2014	12:42	574
Nickel, Total Recoverable	<0.0100	mg/l	0.0100	EPA 200.8	04/22/2014	08:45	574
Selenium, Total Recoverable	<0.0100	mg/l	0.0100	EPA 200.8	04/22/2014	08:45	574
Silver, Total Recoverable	<0.00500	mg/l	0.00500	EPA 200.8	04/22/2014	08:45	574
Thallium, Total Recoverable	<0.00400	mg/l	0.00400	EPA 200.8	04/22/2014	08:45	574
Zinc, Total Recoverable	0.0254	mg/l	0.0100	EPA 200.8	04/22/2014	08:45	574
Total Cyanide	<0.0200	mg/l	0.0200	SM4500CNE-2011	04/28/2014	10:05	574
Phenol	<0.02	mg/l	0.02	EPA 420.4	04/23/2014	13:07	013
Total Hardness as CaCO3	49.1	mg/l	2.00	SM 2340 C-2011	04/30/2014	08:30	KW
625 Semi-Volatiles							
Acenaphthene	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
Acenaphthylene	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
Anthracene	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
Benzidine	<0.0206	mg/l	0.0206	EPA 625	04/21/2014	17:31	574
Benzo(a)anthracene	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
Benzo(a)pyrene	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
Benzo(b)fluoranthene	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
Benzo(ghi)perylene	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
Benzo(k)fluoranthene	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
4-Bromophenyl phenyl ether	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
Butylbenzyl Phthalate	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
4-Chloro-3-methylphenol	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
Bis(2-Chloroethoxy)methane	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
Bis(2-Chloroethyl)ether	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
Bis(2-Chloroisopropyl)ether	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
2-Chloronaphthalene	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
2-Chlorophenol	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
4-Chlorophenyl phenyl ether	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
Chrysene	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574

ESS
Environmental Systems Service, Ltd.

Analytical Report

Louisa County Water Authority
Regional Effluent
P. O. Box 9
Louisa, VA 23093

Report Date: 05/15/2014
Job #: R000456
Customer #: 7011RE
Customer PO #:
Collected By: Customer
Sample Location: Regional STP

Sample ID#: 0032983 **Sample Source:** Effluent
Sample Date/Time: 04/16/2014 / 13:15 **Date Received:** 04/16/2014

Parameter	Results	Unit	Report Limit	Method	Analysis Date	Time	INIT
Di-n-butyl Phthalate	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
Di-n-octyl Phthalate	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
Dibenzo(a,h)anthracene	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
3,3-Dichlorobenzidine	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
2,4-Dichlorophenol	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
Diethyl Phthalate	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
2,4-Dimethylphenol	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
Dimethyl Phthalate	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
2,4-Dinitrophenol	<0.0206	mg/l	0.0206	EPA 625	04/21/2014	17:31	574
2,4-Dinitrotoluene	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
2,6-Dinitrotoluene	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
1,2-Diphenylhydrazine	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
Bis(2-Ethylhexyl)Phthalate	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
Fluoranthene	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
Fluorene	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
Hexachlorobenzene	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
Hexachlorobutadiene	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
Hexachlorocyclopentadiene	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
Hexachloroethane	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
Indeno(1,2,3-cd)pyrene	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
Isophorone	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
4,6-Dinitro-o-cresol	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
Naphthalene	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
Nitrobenzene	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
2-Nitrophenol	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
4-Nitrophenol	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
N-nitrosodimethylamine	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
N-nitrosodi-n-propylamine	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
N-nitrosodiphenylamine	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
Pentachlorophenol	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
Phenanthrene	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
Phenol	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
Pyrene	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
1,2,4-Trichlorobenzene	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
2,4,6-Trichlorophenol	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574
2,3,7,8-Tetrachlorodibenzodiox	<0.0103	mg/l	0.0103	EPA 625	04/21/2014	17:31	574

ESS
Environmental Systems Service, Ltd.

Analytical Report

Louisa County Water Authority
Regional Effluent
P. O. Box 9
Louisa, VA 23093

Report Date: 05/15/2014
Job #: R000456
Customer #: 7011RE
Customer PO #:
Collected By: Customer
Sample Location: Regional STP

Sample ID#: 0032983 **Sample Source:** Effluent
Sample Date/Time: 04/16/2014 / 13:15 **Date Received:** 04/16/2014

Parameter	Results	Unit	Report Limit	Method	Analysis Date	Time	INIT
624 Volatiles							
Acrolein	<0.00500	mg/l	0.00500	EPA 624	04/24/2014	14:21	574
Acrylonitrile	<0.00500	mg/l	0.00500	EPA 624	04/24/2014	14:21	574
Benzene	<0.00200	mg/l	0.00200	EPA 624	04/24/2014	14:21	574
Dichlorobromomethane	<0.00200	mg/l	0.00200	EPA 624	04/24/2014	14:21	574
Bromoform	<0.00500	mg/l	0.00500	EPA 624	04/24/2014	14:21	574
Bromomethane	<0.00500	mg/l	0.00500	EPA 624	04/24/2014	14:21	574
Carbon Tetrachloride	<0.00500	mg/l	0.00500	EPA 624	04/24/2014	14:21	574
Chlorobenzene	<0.00200	mg/l	0.00200	EPA 624	04/24/2014	14:21	574
Chlorodibromomethane	<0.00200	mg/l	0.00200	EPA 624	04/24/2014	14:21	574
Chloroethane	<0.00200	mg/l	0.00200	EPA 624	04/24/2014	14:21	574
2-Chloroethylvinylether	<0.0100	mg/l	0.0100	EPA 624	04/24/2014	14:21	574
Chloroform	<0.00200	mg/l	0.00200	EPA 624	04/24/2014	14:21	574
Chloromethane	<0.00200	mg/l	0.00200	EPA 624	04/24/2014	14:21	574
1,2-Dichlorobenzene	<0.00200	mg/l	0.00200	EPA 624	04/24/2014	14:21	574
1,3-Dichlorobenzene	<0.00200	mg/l	0.00200	EPA 624	04/24/2014	14:21	574
1,4-Dichlorobenzene	<0.00200	mg/l	0.00200	EPA 624	04/24/2014	14:21	574
1,1-Dichloroethane	<0.00200	mg/l	0.00200	EPA 624	04/24/2014	14:21	574
1,2-Dichloroethane	<0.00200	mg/l	0.00200	EPA 624	04/24/2014	14:21	574
1,1-Dichloroethene	<0.00200	mg/l	0.00200	EPA 624	04/24/2014	14:21	574
trans-1,2-Dichloroethene	<0.00500	mg/l	0.00500	EPA 624	04/24/2014	14:21	574
1,2-Dichloropropane	<0.00200	mg/l	0.00200	EPA 624	04/24/2014	14:21	574
cis-1,3-Dichloropropene	<0.00200	mg/l	0.00200	EPA 624	04/24/2014	14:21	574
trans-1,3-Dichloropropene	<0.00200	mg/l	0.00200	EPA 624	04/24/2014	14:21	574
Ethylbenzene	<0.00200	mg/l	0.00200	EPA 624	04/24/2014	14:21	574
Methylene Chloride	<0.00500	mg/l	0.00500	EPA 624	04/24/2014	14:21	574
1,1,2,2-Tetrachloroethane	<0.00200	mg/l	0.00200	EPA 624	04/24/2014	14:21	574
Tetrachloroethene	<0.00200	mg/l	0.00200	EPA 624	04/24/2014	14:21	574
Toluene	<0.00200	mg/l	0.00200	EPA 624	04/24/2014	14:21	574
1,1,1-Trichloroethane	<0.00200	mg/l	0.00200	EPA 624	04/24/2014	14:21	574
1,1,2-Trichloroethane	<0.00200	mg/l	0.00200	EPA 624	04/24/2014	14:21	574
Trichloroethene	<0.00200	mg/l	0.00200	EPA 624	04/24/2014	14:21	574
Trichlorofluoromethane	<0.00200	mg/l	0.00200	EPA 624	04/24/2014	14:21	574
Vinyl Chloride	<0.00200	mg/l	0.00200	EPA 624	04/24/2014	14:21	574

Analytical Report

Louisa County Water Authority
Regional Effluent
P. O. Box 9
Louisa, VA 23093

Report Date:	05/15/2014
Job #:	R000456
Customer #:	7011RE
Customer PO #:	
Collected By:	Customer
Sample Location:	Regional STP

574 Samples subcontracted to VELAP ID# 460160
013 Samples subcontracted to VELAP ID# 460013

SAMPLE CHAIN OF CUSTODY RECORD

Company _ Louisa County Water Authority
Contact _____
Address _____
Address _____
Phone _____

ENVIRONMENTAL SYSTEMS SERVICE, LTD.

www.ess-services.com

218 North Main St.
Post Office Box 520
Culpeper, VA 22701
800-541-2116
540-825-6660 Fax: 540-825-4961

500 Stone St.
Post Office Box 736
Bedford, VA 24523
540-586-5413
Fax 540-586-5530

Project Name/Site __ Regional STP **P.O.#** _____

Sampled By: Kyle Moore (Print Name) _____ (Signature)

ESS SAMPLE ID.	COLLECTION DATE	COLLECTION TIME	SAMPLE LOCATION	CONTAINERS SIZE	TYPE	#	GRAB	COMP	SAMPLE MATRIX	PRESERVATIVE	ANALYSES (1) Metals*	(2) Cyanide	(3) EPA 625 Semi-Vol	(4) EPA 624 Vol	(5) Phenol	(6) Hardness	COMMENTS
32983	4/16/14	1315	EFFLUENT	250ml	P	1	X		ww	HN03	X						*Sb,As,Be,Cd
	4/16/14	1315		250ml	P	1	X		ww	NaOH		X					Cr,Cu,Pb,Hg
	4/16/14	1315		1L	G	2	X		ww	none			X				Ni,Se,Ag
	4/16/14	1315		40ml	G	3	X		ww	HCL				X			Tl, Zn
	4/16/14	1315		1L	G	1	X		ww	H2SO4					X		
	4/16/14	1315		250ml	P	1	X		ww	HN03						X	
																	Preservative
																	pH Check:
																	<2
																	>12

Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received by:
[signature]	4/16/14	14:05	[signature]	[signature]	4/16/14	15:15	
Relinquished by:	Date	Time	Received by:	Relinquished by:	Date	Time	Received for Laboratory by:
					4/16/14	1515	[signature]

Method of Delivery:
☐ UPS ☐ Fed Ex ☑ Hand Delivery
☐ UPS Overnight ☐ Post Office

On Ice? (Y) N
Received @ 1.8 C
☐ Under 2 hours

TAT:
Normal ____ Rush ____
Need Results by _____
Extra charges will apply for Rush TAT.

W.O.# B000456
W.O.# _____

Amt Paid $_____
Check # _____

Sample Condition "OK" Upon Receipt

Revised 3/13/14

VPDES PERMIT APPLICATION ADDENDUM (FOR VPDES PERMIT NO. VA0067954)

1. **Entity to whom the permit is to be issued:** Louisa County Water Authority
   Who will be legally responsible for the wastewater treatment facilities and compliance with the permit? This may or may not be the facility or property owner.

2. **Is this facility located within city or town boundaries?** (Yes) No

3. **Please provide the tax map parcel number for the land where the discharge is located:** 41-137

4. **What is the design average flow of this facility in million gallons per day (MGD)?** .8 MGD

5. **In addition to the design flow, should the permit be written with limits for any other discharge flow tiers?**
   (Yes) No
   If yes, please identify the other flow tiers in MGD: .5
   Please consider such issues as if you plan to expand operations during the next five years or if your facility's design flow is considerably greater than your current flow?

6. **Nature of operations generating wastewater:** municipal

   78% of flow from domestic connections/sources

   22% of flow from non-domestic connections/sources

7. **Mode of discharge:** X Continuous _____ Intermittent _____ Seasonal

   Describe frequency and duration of intermittent and seasonal discharges: _____

8. **Identify the characteristics of the receiving stream at the point <u>just above</u> the facility's discharge point(s):**

Stream Characteristic	**Outfall Number**						
	001						
Never dry, permanent stream	X						
Usually flowing, sometimes dry, intermittent stream							
Wet-weather flow, often dry, ephemeral stream							
Usually or always dry, effluent-dependent stream							
Lake or pond at or below discharge point							
Other:							

9. **Approval date(s), if applicable:**

   O & M Manual 19 Aug 2011 **Sludge/Solids Management Plan** 12 Nov 2013

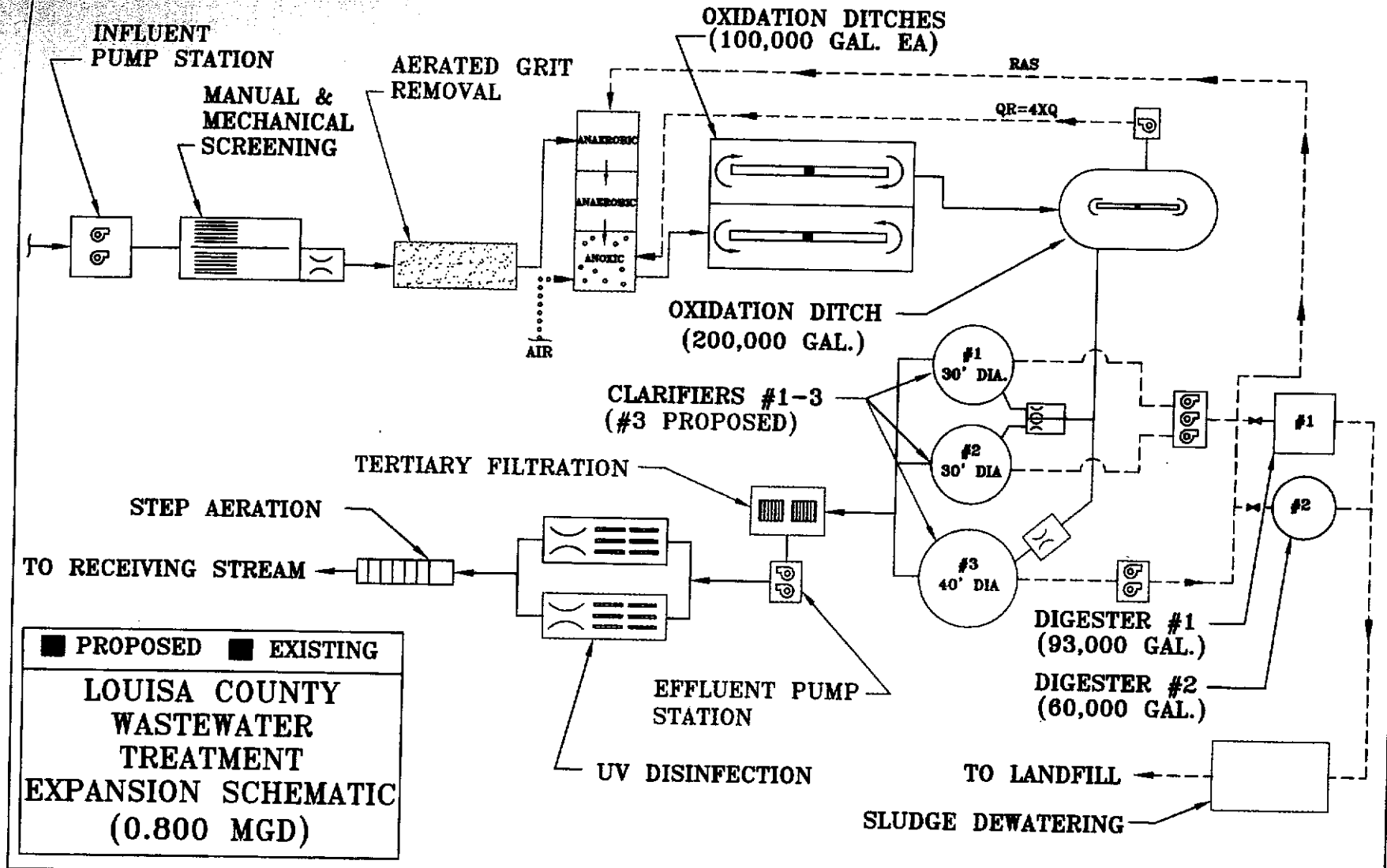
   Have there been changes in your operation or procedures since the above approval dates? Yes (No)

10. **Please provide a list of Materials stored at the facility. Please complete the table below or attach another page if more room is necessary.**

Material Storage		
Materials Description	**Volume Stored**	**Spill/Stormwater Prevention Measures**
Soda Ash	5000lbs in 50lb bags	Kept indoors
Alum	10 x 55 gal drums	Spill containment kit
Extera 7787 polymer	250 gallon tote	Secondary containment in floor

11. **Please provide the name and email addresses for personnel who will be involved with the reissuance of the VPDES permit:**

Name	Title	E-mail Address
Dean Rodgers	General Manager	drodgers@louisa.org
Wesley Basore	Waste Operations Manager	wbasore@louisa.org



Dewberry
Dewberry & Davis, Inc.
4180 Innslake Drive
Glen Allen, Virginia 23060
Phone: 804.290.7657
Fax: 804.290.7926

DATE	TITLE	SHEET NO.
DEC 2008	PROPOSED FACILITIES LINE DIAGRAM	FIG. 5.2
PROJ. NO. LCWA	PROJECT LOUISA REGIONAL WWTP EXPANSION - PER	

PUBLIC NOTICE BILLING INFORMATION

I hereby authorize the Virginia Department of Environmental Quality to have the cost of publishing a public notice billed to the Agent/Department shown below. The public notice will be published once a week for two consecutive weeks in accordance with 9VAC25-31-290.C.2.

Agent/Department to be billed: Louisa County Water Authority

Owner: _____

Applicant's Address: P.O. Box 9

Louisa, VA 23093

_____

Agent's Telephone Number: (540) 967-1122

Authorizing Agent: _____
Signature

VPDES Permit No. VA0067954
Louisa Regional WWTP

Please return to:

Alison Thompson
VA-DEQ, NRO
13901 Crown Court
Woodbridge, VA 22193-1453
Fax: (703)583-3821

FACILITY NAME: Louisa Regional WWTP VPDES PERMIT NUMBER: VA0067954

VPDES SEWAGE SLUDGE PERMIT APPLICATION FORM

SCREENING INFORMATION

This application is divided into sections. Sections A pertain to all applicants. The applicability of Sections B, C and D depend on your facility's sewage sludge use or disposal practices. The information provided on this page will help you determine which sections to fill out.

1. All applicants must complete Section A (General Information).

2. Will this facility generate sewage sludge? X Yes _No

   Will this facility derive a material from sewage sludge? _Yes X No

   If you answered Yes to either, complete Section B (Generation Of Sewage Sludge Or Preparation Of A Material Derived From Sewage Sludge).

3. Will this facility apply sewage sludge to the land? X Yes _No

   Will sewage sludge from this facility be applied to the land? X Yes _No

   If you answered No to both questions above, skip Section C.

   If you answered Yes to either, answer the following three questions:

   a. Will the sewage sludge from this facility meet the ceiling concentrations, pollutant concentrations, Class A pathogen reduction requirements and one of the vector attraction reduction requirements 1-8, as identified in the instructions?
   _Yes X No

   b. Will sewage sludge from this facility be placed in a bag or other container for sale or give-away for application to the land? _Yes X No

   c. Will sewage sludge from this facility be sent to another facility for treatment or blending? _Yes X No

   If you answered No to all three, complete Section C (Land Application Of Bulk Sewage Sludge).

   If you answered Yes to a, b or c, skip Section C.

4. Do you own or operate a surface disposal site? _Yes X No

   If Yes, complete Section D (Surface Disposal).

FACILITY NAME: Louisa Regional WWTP VPDES PERMIT NUMBER: VA0067954

SECTION A. GENERAL INFORMATION

All applicants must complete this section.

1. Facility Information.
   a. Facility name: Louisa County Regional WWTP
   b. Contact person: Wesley Basore
      Title: Wastewater Operations Manager
      Phone: (540 967-1122 OR (540) 894-3807 (Cell)
   c. Mailing address:
      Street or P.O. Box: P.O. Box 9, 23 Loudin Lane
      City or Town: Louisa State: VA Zip: 23093
   d. Facility location:
      Street or Route #: 131 Pine Ridge Dr.
      County: Louisa
      City or Town: Louisa State: VA Zip: 23093
   e. Is this facility a Class I sludge management facility? __Yes X No
   f. Facility design flow rate: 0.800 mgd
   g. Total population served: 394 Sewer Connections
   h. Indicate the type of facility:
      X Publicly owned treatment works (POTW)
      __ Privately owned treatment works
      __ Federally owned treatment works
      __ Blending or treatment operation
      __ Surface disposal site
      __ Other (describe):

2. Applicant Information. If the applicant is different from the above, provide the following: N/A
   a. Applicant name:
   b. Mailing address:
      Street or P.O. Box:
      City or Town: _____ State: _____ Zip:
   c. Contact person:
      Title:
      Phone: ( )
   d. Is the applicant the owner or operator (or both) of this facility?
      _____owner _____ operator
   e. Should correspondence regarding this permit be directed to the facility or the applicant? (Check one)
      _____ facility _____ applicant

3. Permit Information.
   a. Facility's VPDES permit number (if applicable): VA 0067954
   b. List on this form or an attachment, all other federal, state or local permits or construction approvals received or applied for that regulate this facility's sewage sludge management practices:

Permit Number:	Type of Permit:
VPA 00074	Virginia Pollution Abatement

4. Indian Country. Does any generation, treatment, storage, application to land or disposal of sewage sludge from this facility occur in Indian Country? __Yes X No If yes, describe:

FACILITY NAME: Louisa Regional WWTP VPDES PERMIT NUMBER: VA0067954

5. Topographic Map. Provide a topographic map or maps (or other appropriate maps if a topographic map is unavailable) that shows the following information. Maps should include the area one mile beyond all property boundaries of the facility: Please See Attached Copies (2)
   a. Location of all sewage sludge management facilities, including locations where sewage sludge is generated, stored, treated, or disposed.
   b. Location of all wells, springs, and other surface water bodies listed in public records or otherwise known to the applicant within 1/4 mile of the property boundaries.

6. Line Drawing. Provide a line drawing and/or a narrative description that identifies all sewage sludge processes that will be employed during the term of the permit including all processes used for collecting, dewatering, storing, or treating sewage sludge, the destination(s) of all liquids and solids leaving each unit, and all methods used for pathogen reduction and vector attraction reduction. Please see Attached Copy (1)

7. Contractor Information. Are any operational or maintenance aspects of this facility related to sewage sludge generation, treatment, use or disposal the responsibility of a contractor? __Yes X No
   If yes, provide the following for each contractor (attach additional pages if necessary).
   Name:
   Mailing address:
   Street or P.O. Box:
   City or Town: _____ State: _____ Zip:
   Phone: ( )
   Contractor's Federal, State or Local Permit Number(s) applicable to this facility's sewage sludge:

   If the contractor is responsible for the use and/or disposal of the sewage sludge, provide a description of the service to be provided to the applicant and the respective obligations of the applicant and the contractor(s).

8. Pollutant Concentrations. Using the table below or a separate attachment, provide sewage sludge monitoring data for the pollutants which limits in sewage sludge have been established in 9 VAC 25-31-10 et seq. for this facility's expected use or disposal practices. All data must be based on three or more samples taken at least one month apart and must be no more than four and one-half years old.

POLLUTANT	CONCENTRATION (mg/kg dry weight)	SAMPLE DATE	ANALYTICAL METHOD	DETECTION LEVEL FOR ANALYSIS
Arsenic	4.0	(Average	of 3 Data	Sets Attached)
Cadmium	0.6			
Chromium	62.6	*Please	See Attached	Copies (4)
Copper	526.0			
Lead	28.6			
Mercury	2.8			
Molybdenum	6.0			
Nickel	29.3			
Selenium	1.6			
Zinc	916.6			

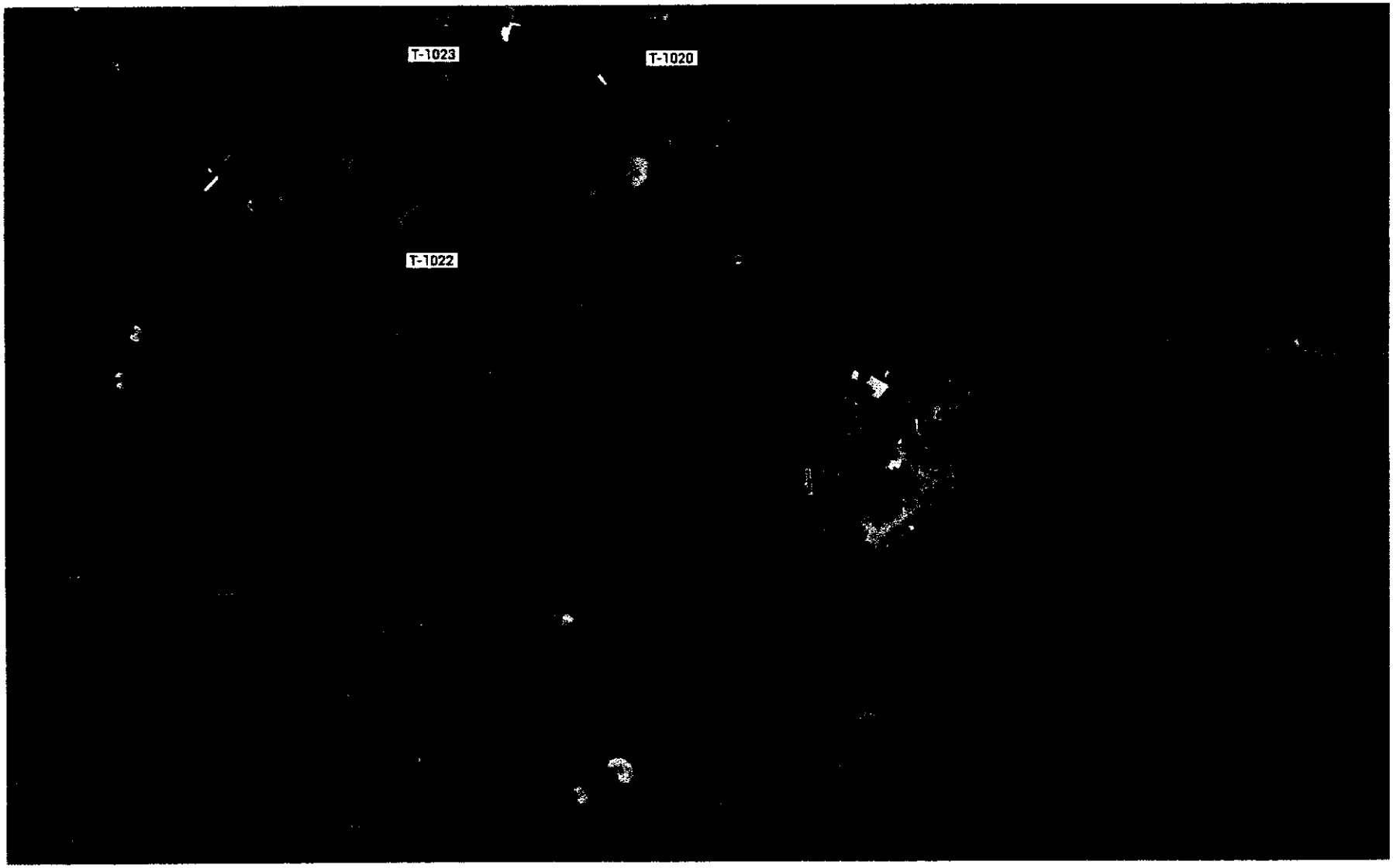
9. Certification. Read and submit the following certification statement with this application. Refer to the instructions to determine who is an officer for purposes of this certification. Indicate which parts of the application you have completed and are submitting:

X Section A (General Information)
X Section B (Generation of Sewage Sludge or Preparation of a Material Derived from Sewage Sludge)
X Section C (Land Application of Bulk Sewage Sludge)
___ Section D (Surface Disposal)

VPDES Sewage Sludge Permit Application Form
Section A., General Information, Question #5.a. & b.

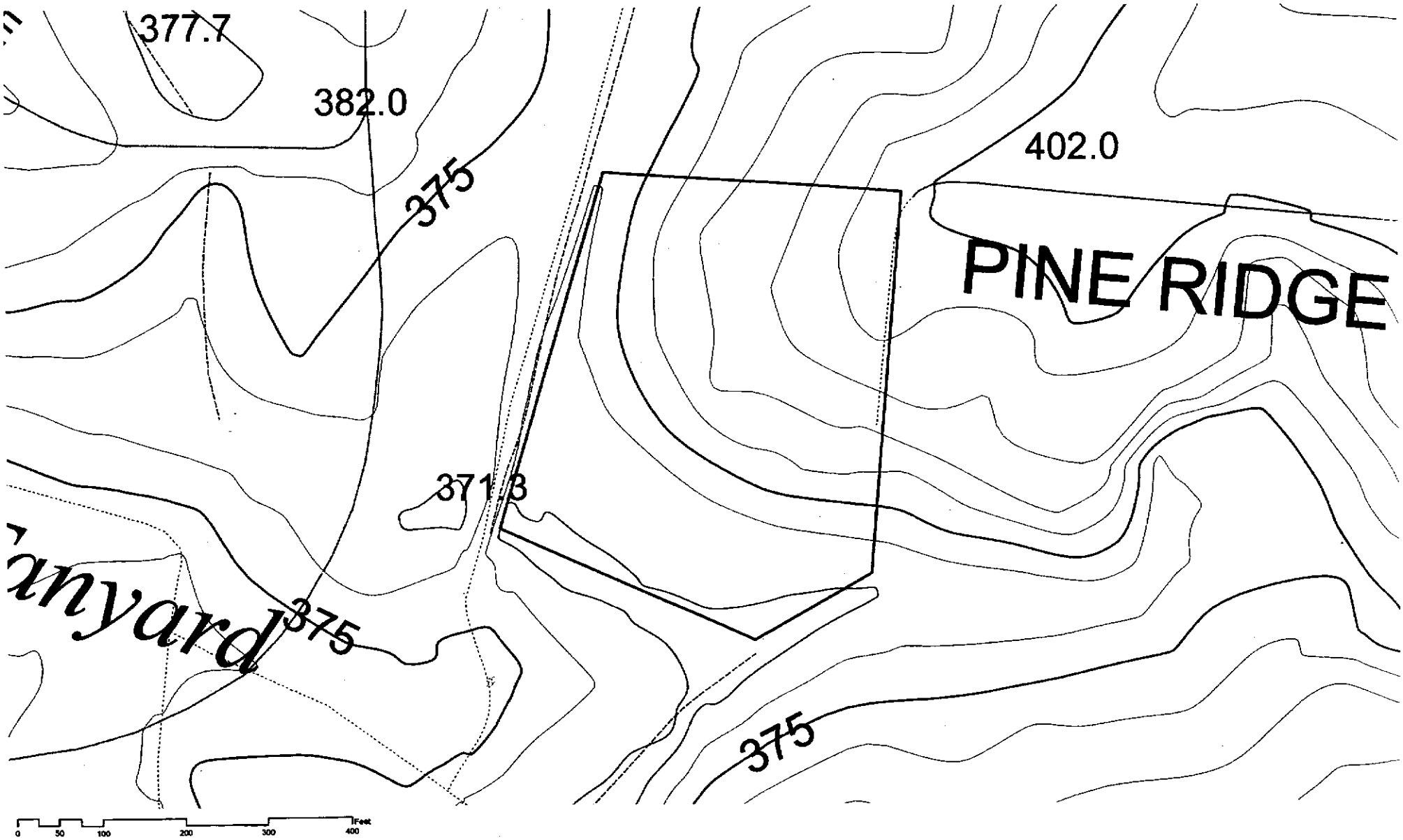
To see all the details that are visible on the screen, use the "Print" link next to the map.

Google



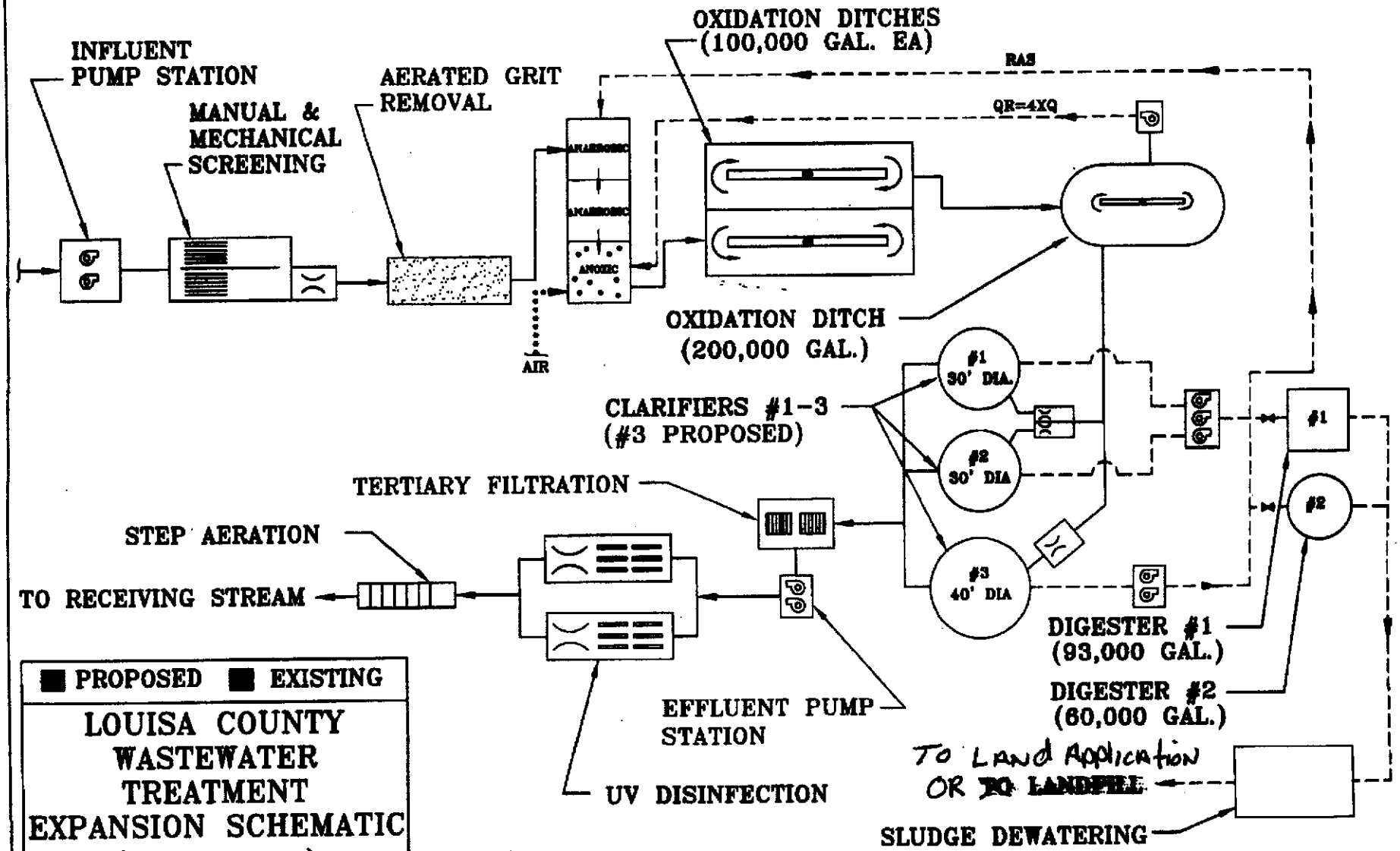
VPDES Sewage Sludge Permit Application Form, Section A., General Information, Question #5, Topographic Map

TAX MAP PARCEL: 41-(6)-9



VPDES Sewage Sludge Permit Application Form, Section A. General Information, Question #6

Line Drawing



Dewberry Dewberry & Davis, Inc. 4180 Innslake Drive Glen Allen, Virginia 23060 Phone: 804.290.7987 Fax: 804.290.7988	DATE APR 2007	TITLE PROPOSED FACILITIES LINE DIAGRAM	SHEET NO. FIG. 3.2
	PROJ. NO. LCWA	PROJECT LOUISA REGIONAL WWTP EXPANSION - PER	

Louisa Regional WWTP VA0067954, VPDES Sewage Sludge Permit Application Form, Section A, General Information, Question# 8.				
Pollutant	**Concentration (mg/kg dry weight)**	**Sample Date**	**Analytical Method**	**Detection Level For Analysis (mg/kg)**
Arsenic	5.0	6/24/2013	SW 6010C	3.0
Cadmium	2.0	6/24/2013	SW 6010C	2.0
Chromium	73.0	6/24/2013	SW 6010C	5.0
Copper	707.0	6/24/2013	SW 6010C	5.0
Lead	38.0	6/24/2013	SW 6010C	5.0
Mercury	3.3	6/24/2013	SW 6010C	0.4
Molybdenum	8.0	6/24/2013	SW 6010C	5.0
Nickel	30.0	6/24/2013	SW 6010C	5.0
Selenium	5.0	6/24/2013	SW 6010C	5.0
Zinc	1170.0	6/24/2013	SW 6010C	5.0

Pollutant	**Concentration (mg/kg dry weight)**	**Sample Date**	**Analytical Method**	**Detection Level For Analysis**
Arsenic	4.0	3/11/2014	SW 6010C	3.0
Cadmium	<2.0	3/11/2014	SW 6010C	2.0
Chromium	61.0	3/11/2014	SW 6010C	5.0
Copper	425.0	3/11/2014	SW 6010C	5.0
Lead	26.0	3/11/2014	SW 6010C	5.0
Mercury	2.6	3/11/2014	SW 6010C	0.4
Molybdenum	5.0	3/11/2014	SW 6010C	5.0
Nickel	30.0	3/11/2014	SW 6010C	5.0
Selenium	<5.0	3/11/2014	SW 6010C	5.0
Zinc	803.0	3/11/2014	SW 6010C	5.0

Pollutant	**Concentration (mg/kg dry weight)**	**Sample Date**	**Analytical Method**	**Detection Level For Analysis**
Arsenic	3.0	4/17/2014	SW 6010C	3.0
Cadmium	<2.0	4/17/2014	SW 6010C	2.0
Chromium	54.0	4/17/2014	SW 6010C	5.0
Copper	446.0	4/17/2014	SW 6010C	5.0
Lead	22.0	4/17/2014	SW 6010C	5.0
Mercury	2.6	4/17/2014	SW 6010C	0.4
Molybdenum	5.0	4/17/2014	SW 6010C	5.0
Nickel	28.0	4/17/2014	SW 6010C	5.0
Selenium	<5.0	4/17/2014	SW 6010C	5.0
Zinc	777.0	4/17/2014	SW 6010C	5.0

Section H.) Question # 8

Report Number: 13-175-0201
Account Number: 74341
Submitted By: PHILLIP BAILEY

www.aleastern.com

A&L Eastern Laboratories, Inc.
7621 Whitepine Road Richmond, Virginia 23237 (804) 743-9401 Fax (804) 271-6446

Send To: LOUISA CO WATER AUTH
WES BASORE
POB 9
LOUISA , VA 23093

Project : LOUISA REGIONAL WWTP

REPORT OF ANALYSIS

Lab Number : 94308
Sample Id : SLUDGE CAKE

Date Sampled: 6/21/2013 13:00:00
Date Received: 06/24/2013 00:00
Date Reported: 06/27/2013

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	20.46	204600	100.0	JM	06/24/2013 14:30	SM-2540G
Moisture *	79.54		100.0	JM	06/24/2013 14:30	SM-2540G
Total Kjeldahl Nitrogen	3.90	39000	10.0	JM	06/26/2013 08:10	SM-4500-NH3C-TKN
Total Phosphorus	2.71	27100	100	DH	06/27/2013 09:55	SW 6010C
Total Potassium	0.21	2110	100	DH	06/27/2013 09:55	SW 6010C
Total Copper		707	5	DH	06/27/2013 09:55	SW 6010C
Total Zinc		1170	5	DH	06/27/2013 09:55	SW 6010C
Ammonia Nitrogen	0.35	3470	10.0	JM	06/26/2013 08:10	SM-4500-NH3C
Organic N	3.55	35530	10.0		06/26/2013 08:10	CALCULATION
Nitrate+Nitrite-N		<2.00	2.00	JM	06/26/2013 08:10	SM-4500NO3F
Total Cadmium		2.0	2.0	DH	06/27/2013 09:55	SW 6010C
Total Chromium		73	5	DH	06/27/2013 09:55	SW 6010C
Total Nickel		30	5	DH	06/27/2013 09:55	SW 6010C
Total Lead		38	5	DH	06/27/2013 09:55	SW 6010C
Total Arsenic		5.0	3.0	DH	06/27/2013 09:55	SW 6010C
Total Mercury		3.3	0.4	KM	06/24/2013 09:00	SW-7471B
Total Selenium		5.0	5.0	DH	06/27/2013 09:55	SW 6010C
pH (Standard Units) *	6.40		2.00	JM	06/26/2013 08:10	SW-9045D

All values are on a dry weight basis except as noted by asterisk. Detection limit on all N series is on a wet basis.

Debbie Holt

Report Number: 13-175-0201
Account Number: 74341
Submitted By: PHILLIP BAILEY

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Send To: LOUISA CO WATER AUTH
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POB 9
LOUISA , VA 23093

Project : LOUISA REGIONAL WWTP

REPORT OF ANALYSIS

Lab Number : 94308
Sample Id : SLUDGE CAKE

Date Sampled: 6/21/2013 13:00:00
Date Received: 06/24/2013 00:00
Date Reported: 06/27/2013

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Molybdenum		8	5	DH	06/27/2013 09:55	SW 6010C
Alkalinity (as CaCO3)		14000	100	JM	06/27/2013 09:40	SM-2320 B

Comments:
NELAP ACCREDITED: VA NELAC LAB. # 460014. PA NELAC LAB # 68-03109, FL NELAC LAB # E871087, NJ NELAC LAB # VA011. RESULTS REPORTED MEET ALL REQUIREMENTS OF THE CURRENT NELAC STANDARDS. ALKALINITY AND ORGANIC NITROGEN NOT FOR COMPLIANCE PURPOSES.

All values are on a dry weight basis except as noted by asterisk. Detection limit on all N series is on a wet basis.

Debbie Holt

Section A, Question 8

Report Number: 14-071-0202
Account Number: 74341
Submitted By: PHILLIP BAILEY

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A&L Eastern Laboratories, Inc.
7621 Whitepine Road Richmond, Virginia 23237 (804) 743-9401 Fax (804) 271-6446

Send To: LOUISA CO WATER AUTH
WES BASORE
POB 9
LOUISA , VA 23093

Project : LOUISA REGIONAL WWTP SLUDGE CAKE

REPORT OF ANALYSIS

Lab Number : 98336
Sample Id : LOUISA REGIONAL WWTP SLUDGE CAKE

Date Sampled: 3/11/2014 13:15:00
Date Received: 03/12/2014 00:00
Date Reported: 03/19/2014

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	15.98	159800	100.0	JM	03/12/2014 14:35	SM-2540G
Moisture *	84.02		100.0	JM	03/12/2014 14:35	SM-2540G
Total Kjeldahl Nitrogen	5.78	57800	10.0	JM	03/13/2014 08:05	SM-4500-NH3C-TKN
Total Phosphorus	2.40	24000	100	KM	03/13/2014 13:00	SW 6010C
Total Potassium	0.53	5330	100	KM	03/13/2014 13:00	SW 6010C
Total Copper		425	5	KM	03/13/2014 13:00	SW 6010C
Total Zinc		803	5	KM	03/13/2014 13:00	SW 6010C
Ammonia Nitrogen	0.26	2570	10.0	JM	03/18/2014 13:00	SM-4500-NH3C
Organic N	5.52	55230	10.0		03/13/2014 08:05	CALCULATION
Nitrate (NO3-N)		48.8	2.00	JM	03/13/2014 08:05	SM-4500NO3F
Total Cadmium		<2.0	2.0	KM	03/13/2014 13:00	SW 6010C
Total Chromium		61	5	KM	03/13/2014 13:00	SW 6010C
Total Nickel		30	5	KM	03/13/2014 13:00	SW 6010C
Total Lead		26	5	KM	03/13/2014 13:00	SW 6010C
Total Arsenic		4.0	3.0	KM	03/13/2014 13:00	SW 6010C
Total Mercury		2.6	0.4	KM	03/13/2014 09:00	SW-7471B
Total Selenium		<5.0	5.0	KM	03/13/2014 13:00	SW 6010C
pH (Standard Units) *	6.78		2.00	JM	03/13/2014 08:05	SW-9045D

All values are on a dry weight basis except as noted by asterisk. Detection limit on all N series is on a wet basis.

Debbie Holt

Report Number: 14-071-0202
Account Number: 74341
Submitted By: PHILLIP BAILEY

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7621 Whitepine Road Richmond, Virginia 23237 (804) 743-9401 Fax (804) 271-6448

Send To: LOUISA CO WATER AUTH
WES BASORE
POB 9
LOUISA , VA 23093

Project : LOUISA REGIONAL WWTP SLUDGE CAKE

REPORT OF ANALYSIS

Lab Number : 98336
Sample Id : LOUISA REGIONAL WWTP SLUDGE CAKE

Date Sampled: 3/11/2014 13:15:00
Date Received: 03/12/2014 00:00
Date Reported: 03/19/2014

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Volatile Solids	72.09	720900	100.0	JM	03/12/2014 14:35	SM-2540G
Total Molybdenum		5	5	KM	03/13/2014 13:00	SW 6010C
Alkalinity (as CaCO3)		7200	100	JM	03/13/2014 10:54	SM-2320 B
Nitrite (NO2-N)		<1.00	1.00	JM	03/13/2014 09:45	SM-4500-NO2B

Comments:
NELAP ACCREDITED: VA NELAC LAB. # 460014. PA NELAC LAB # 68-03109, FL NELAC LAB # E871087, NJ NELAC LAB # VA011. RESULTS REPORTED MEET ALL REQUIREMENTS OF THE CURRENT NELAC STANDARDS. ALKALINITY AND ORGANIC NITROGEN NOT FOR COMPLIANCE PURPOSES.
CCE FOR COMPLIANCE IN VIRGINIA AND PENNSYLVANIA ONLY.
QUALIFIER: THE MATRIX SPIKE WAS OUT OF LIMITS FOR "NO3/NO2-N". ALL OTHER QC DATA IS ACCEPTABLE.

All values are on a dry weight basis except as noted by asterisk. Detection limit on all N series is on a wet basis.

Debbie Holt

Section H., Question 8

Report Number: 14-108-0202
Account Number: 74341
Submitted By: PHILLIP BAILEY

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7621 Whitepine Road Richmond, Virginia 23237 (804) 743-9401 Fax (804) 271-6446

Send To: LOUISA CO WATER AUTH
WES BASORE
POB 9
LOUISA , VA 23093

Project : LOUISA REGIONAL WWTP SLUDGE CAKE

REPORT OF ANALYSIS

Lab Number : 50039
Sample Id : LOUISA REGIONAL WWTP SLUDGE CAKE

Date Sampled: 4/17/2014 13:00:00
Date Received: 04/18/2014 00:00
Date Reported: 04/23/2014

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	17.33	173300	100.0	JM	04/18/2014 14:39	SM-2540G
Moisture *	82.67		100.0	JM	04/18/2014 14:39	SM-2540G
Total Kjeldahl Nitrogen	5.67	56700	10.0	JM	04/21/2014 08:30	SM-4500-NH3C-TKN
Total Phosphorus	2.32	23200	100	KM	04/21/2014 13:29	SW 6010C
Total Potassium	0.53	5290	100	KM	04/21/2014 13:29	SW 6010C
Total Copper		446	5	KM	04/21/2014 13:29	SW 6010C
Total Zinc		777	5	KM	04/21/2014 13:29	SW 6010C
Ammonia Nitrogen	0.31	3060	10.0	JM	04/21/2014 08:30	SM-4500-NH3C
Organic N	5.36	53640	10.0		04/21/2014 08:30	CALCULATION
Nitrate (NO3-N)		101	2.00	JM	04/21/2014 08:30	SM-4500NO3F
Total Cadmium		<2.0	2.0	KM	04/21/2014 13:29	SW 6010C
Total Chromium		54	5	KM	04/21/2014 13:29	SW 6010C
Total Nickel		28	5	KM	04/21/2014 13:29	SW 6010C
Total Lead		22	5	KM	04/21/2014 13:29	SW 6010C
Total Arsenic		3.0	3.0	KM	04/21/2014 13:29	SW 6010C
Total Mercury		2.6	0.4	KM	04/21/2014 09:00	SW-7471B
Total Selenium		<5.0	5.0	KM	04/21/2014 13:29	SW 6010C
pH (Standard Units) *	7.04		2.00	JM	04/21/2014 08:30	SW-9045D

All values are on a dry weight basis except as noted by asterisk. Detection limit on all N series is on a wet basis.

Debbie Holt

Report Number: 14-108-0202
Account Number: 74341
Submitted By: PHILLIP BAILEY

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A&L Eastern Laboratories, Inc.
7621 Whitepine Road Richmond, Virginia 23237 (804) 743-9401 Fax (804) 271-6446

Send To: LOUISA CO WATER AUTH
WES BASORE
POB 9
LOUISA , VA 23093

Project : LOUISA REGIONAL WWTP SLUDGE CAKE

REPORT OF ANALYSIS

Lab Number : 50039
Sample Id : LOUISA REGIONAL WWTP SLUDGE CAKE

Date Sampled: 4/17/2014 13:00:00
Date Received: 04/18/2014 00:00
Date Reported: 04/23/2014

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Volatile Solids	71.81	718100	100.0	JM	04/18/2014 14:39	SM-2540G
Total Molybdenum		5	5	KM	04/21/2014 13:29	SW 6010C
Alkalinity (as CaCO3)		20800	100	JM	04/21/2014 10:45	SM-2320 B
Nitrite (NO2-N)		<2.00	2.00	JM	04/21/2014 09:30	SM-4500-NO2B

Comments:
NELAP ACCREDITED: VA NELAC LAB. # 460014. PA NELAC LAB # 68-03109, FL NELAC LAB # E871087, NJ NELAC LAB # VA011. RESULTS REPORTED MEET ALL REQUIREMENTS OF THE CURRENT NELAC STANDARDS. ALKALINITY AND ORGANIC NITROGEN NOT FOR COMPLIANCE PURPOSES. CCE FOR COMPLIANCE IN VIRGINIA AND PENNSYLVANIA ONLY

All values are on a dry weight basis except as noted by asterisk. Detection limit on all N series is on a wet basis.

Debbie Holt

FACILITY NAME: Louisa Regional WWTP **VPDES PERMIT NUMBER:** VA0067954

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name and official title

Signature _____ Date Signed May 30, 2014

Telephone number (540) 967-1122

Upon request of the department, you must submit any other information necessary to assess sewage sludge use or disposal practices at your facility or identify appropriate permitting requirements.

FACILITY NAME: Louisa Regional WWTP VPDES PERMIT NUMBER: VA0067954

SECTION B. GENERATION OF SEWAGE SLUDGE OR PREPARATION OF A MATERIAL DERIVED FROM SEWAGE SLUDGE

Complete this section if your facility generates sewage sludge or derives a material from sewage sludge

1. Amount Generated On Site.
   Total dry metric tons per 365-day period generated at your facility: 70.2 dry metric tons

2. Amount Received from Off Site. If your facility receives sewage sludge from another facility for treatment, use or disposal, provide the following information for each facility from which sewage sludge is received. If you receive sewage sludge from more than one facility, attach additional pages as necessary.
   a. Facility name:
   b. Contact Person: Please see Attached list. (1) page
      Title:
      Phone ( )
   c. Mailing address:
      Street or P.O. Box:
      City or Town:_____ State:_____ Zip:
   d. Facility Address:
      (not P.O. Box)
   e. Total dry metric tons per 365-day period received from this facility:_____ dry metric tons
   f. Describe, on this form or on another sheet of paper, any treatment processes known to occur at the off-site facility, including blending activities and treatment to reduce pathogens or vector attraction characteristics:

3. Treatment Provided at Your Facility.
   a. Which class of pathogen reduction is achieved for the sewage sludge at your facility?
      __Class A X Class B __Neither or unknown
   b. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce pathogens in sewage sludge:

   c. Which vector attraction reduction option is met for the sewage sludge at your facility?
      X Option 1 (Minimum 38 percent reduction in volatile solids)
      __ Option 2 (Anaerobic process, with bench-scale demo nstration)
      __ Option 3 (Aerobic process, with bench-scale demonstration)
      __ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)
      __ Option 5 (Aerobic processes plus raised temperature)
      __ Option 6 (Raise pH to 12 and retain at 11.5)
      __ Option 7 (75 percent solids with no unstabilized solids)
      __ Option 8 (90 percent solids with unstabilized solids)
      __ None or unknown
   d. Describe, on this form or another sheet of paper, any treatment processes used at your facility to reduce vector attraction properties of sewage sludge: Aerobic Digestion
   e. Describe, on this form or another sheet of paper, any other sewage sludge treatment activities, including blending, not identified in a - d above: N/A

4. Preparation of Sewage Sludge Meeting Ceiling and Pollutant Concentrations, Class A Pathogen Requirements and One of Vector Attraction Reduction Options 1-8 (EQ Sludge). N/A
   (If sewage sludge from your facility does not meet all of these criteria, skip Question 4.)
   a. Total dry metric tons per 365-day period of sewage sludge subject to this section that is applied to the land:
      _____ dry metric tons
   b. Is sewage sludge subject to this section placed in bags or other containers for sale or give-away?
      __Yes __No

5. Sale or Give-Away in a Bag or Other Container for Application to the Land. N/A
   (Complete this question if you place sewage sludge in a bag or other container for sale or give-away prior to land application. Skip this question if sewage sludge is covered in Question 4.)
   a. Total dry metric tons per 365-day period of sewage sludge placed in a bag or other container at your facility

VPDES Sewage Sludge Permit Application Form, Section B., Generation of Sewage Sludge or Preparation of a Material Derived From Sewage Sludge, Question# 2:

SLUDGE FROM OTHER SITES:

Aerobically digested sludge is currently accepted on a regular basis from three sources:

Name of facility: Shenandoah Crossings Resort
Facility contact: Tim Bernhardt
Phone: (540) 832-9400
Mailing address: 223 Lunker Lane, Gordonsville, VA 22942
Facility Location: Same
Total tons received from this facility annually: 1.5 dry metric tons
Activities to reduce pathogen or vector attraction characteristics: Aerobically digested waste activated sludge from an extended aeration plant.

Name of facility: Twin Oaks WWTP
Facility contact: McKeyn Porter
Phone: (540)-894-5126 or (540) 205-9341(cell)
Mailing address 138 Twin Oaks Road, Louisa, VA 23093
Facility location: Rt. 697 South East of the Town of Louisa
Total tons received from this facility annually: 0.57 dry metric tons
Activities to reduce pathogen or vector attraction characteristics: Aerobically digested waste activated sludge from an extended aeration plant.

Name of facility: Zion Crossroads WWTP
Facility contact: Nancy Pugh
Phone: (540)-967-3917 or (540)-967-7858 (cell)
Mailing address: 323 Deer Run Drive, Gordonsville, VA 22942
Facility location: Same
Total tons received from this facility annually: 0 (Sludge treated on-site, hauled in emergency)
Activities to reduce pathogen or vector attraction characteristics: Aerobically digested waste activated sludge from a BNR plant.

Additionally, truck hauled septage is accepted from locations in Louisa County. This sludge is blended with WAS from the treatment plant and further treated.

for sale or give-away for application to the land:_____ dry metric tons

b. Attach, with this application, a copy of all labels or notices that accompany the sewage sludge being sold or given away in a bag or other container for application to the land.

6. Shipment Off Site for Treatment or Blending. N/A

(Complete this question if sewage sludge from your facility is sent to another facility that provides treatment or blending. This question does not apply to sewage sludge sent directly to a land application or surface disposal site. Skip this question if the sewage sludge is covered in Questions 4 or 5. If you send sewage sludge to more than one facility, attach additional sheets as necessary.)

a. Receiving facility name:

b. Facility contact:
Title:
Phone: ( )

c. Mailing address:
Street or P.O. Box:
City or Town:_____ State:_____ Zip:

d. Total dry metric tons per 365-day period of sewage sludge provided to receiving facility:_____ dry metric tons

e. List, on this form or an attachment, the receiving facility's VPDES permit number as well as the numbers of all other federal, state or local permits that regulate the receiving facility's sewage sludge use or disposal practices:

Permit Number: Type of Permit:

_____

_____

f. Does the receiving facility provide additional treatment to reduce pathogens in sewage sludge from your facility? __Yes __No
Which class of pathogen reduction is achieved for the sewage sludge at the receiving facility?
__Class A __Class B __Neither or unknown
Describe, on this form or another sheet of paper, any treatment processes used at the receiving facility to reduce pathogens in sewage sludge:

g. Does the receiving facility provide additional treatment to reduce vector attraction characteristics of the sewage sludge? __Yes __No
Which vector attraction reduction option is met for the sewage sludge at the receiving facility?
__ Option 1 (Minimum 38 percent reduction in volatile solids)
__ Option 2 (Anaerobic process, with bench-scale demonstration)
__ Option 3 (Aerobic process, with bench-scale demonstration)
__ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)
__ Option 5 (Aerobic processes plus raised temperature)
__ Option 6 (Raise pH to 12 and retain at 11.5)
__ Option 7 (75 percent solids with no unstabilized solids)
__ Option 8 (90 percent solids with unstabilized solids)
__ None unknown
Describe, on this form or another sheet of paper, any treatment processes used at the receiving facility to reduce vector attraction properties of sewage sludge:

h. Does the receiving facility provide any additional treatment or blending not identified in f or g above?
__Yes __No
If yes, describe, on this form or another sheet of paper, the treatment processes not identified in f or g above:

i. If you answered yes to f., g or h above, attach a copy of any information you provide to the receiving facility to comply with the "notice and necessary information" requirement of 9 VAC 25-31-530.G.

j Does the receiving facility place sewage sludge from your facility in a bag or other container for sale or give-away for application to the land? __Yes __No
If yes, provide a copy of all labels or notices that accompany the product being sold or given away.

k. Will the sewage sludge be transported to the receiving facility in a truck-mounted watertight tank normally used for such purposes?___ Yes ___ No. If no, provide description and specification on the vehicle used to transport the sewage sludge to the receiving facility.
Show the haul route(s) on a location map or briefly describe the haul route below and indicate the days of the

week and the times of the day sewage sludge will be transported.

7. Land Application of Bulk Sewage Sludge. (See VPA 00074 Permit)

(Complete Question 7.a if sewage sludge from your facility is applied to the land, unless the sewage sludge is covered in Questions 4, 5 or 6; complete Question 7.b, c & d only if you are responsible for land application of sewage sludge.)

a. Total dry metric tons per 365-day period of sewage sludge applied to all land application sites: 70.2 dry metric tons

b. Do you identify all land application sites in Section C of this application? X Yes __No
If no, submit a copy of the Land Application Plan (LAP) with this application (LAP should be prepared in accordance with the instructions).

c. Are any land application sites located in States other than Virginia? __Yes X No
If yes, describe, on this form or on another sheet of paper, how you notify the permitting authority for the States where the land application sites are located. Provide a copy of the notification.

d. Attach a copy of any information you provide to the owner or lease holder of the land application sites to comply with the "notice and necessary" information requirement of 9 VAC 25-31-530 F and/or H (Examples may be obtained in Appendix IV).

8. Surface Disposal. N/A

(Complete Question 8 if sewage sludge from your facility is placed on a surface disposal site.)

a. Total dry metric tons per 365-day period of sewage sludge from your facility placed on all surface disposal sites: _____ dry metric tons

b. Do you own or operate all surface disposal sites to which you send sewage sludge for disposal?
__Yes __No
If no, answer questions c - g for each surface disposal site that you do not own or operate. If you send sewage sludge to more than one surface disposal site, attach additional pages as necessary.

c. Site name or number:

d. Contact person:
Title:
Phone: ( )
Contact is: __Site Owner __Site operator

e. Mailing address.
Street or P.O. Box:
City or Town: _____ State: _____ Zip:

f. Total dry metric tons per 365-day period of sewage sludge from your facility placed on this surface disposal site: _____ dry metric tons

g. List, on this form or an attachment, the surface disposal site VPDES permit number as well as the numbers of all other federal, state or local permits that regulate the sewage sludge use or disposal practices at the surface disposal site:

Permit Number:	Type of Permit:
_____	
_____	

9. Incineration. N/A

(Complete Question 9 if sewage sludge from your facility is fired in a sewage sludge incinerator.)

a. Total dry metric tons per 365-day period of sewage sludge from your facility fired in a sewage sludge incinerator: _____ dry metric tons

b. Do you own or operate all sewage sludge incinerators in which sewage sludge from your facility is fired?
__Yes __No
If no, answer questions c - g for each sewage sludge incinerator that you do not own or operate. If you send sewage sludge to more than one sewage sludge incinerator, attach additional pages as necessary.

c. Incinerator name or number:

d. Contact person:
Title:
Phone: ( )
Contact is: __Incinerator Owner __Incinerator Operator

e. Mailing address.
Street or P.O. Box:

City or Town:_____ State:_____ Zip:

f. Total dry metric tons per 365-day period of sewage sludge from your facility fired in this sewage sludge incinerator: _____ dry metric tons

g. List on this form or an attachment the numbers of all other federal, state or local permits that regulate the firing of sewage sludge at this incinerator:

Permit Number:	Type of Permit:

10. Disposal in a Municipal Solid Waste Landfill.

(Complete Question 10 if sewage sludge from your facility is placed on a municipal solid waste landfill. Provide the following information for each municipal solid waste landfill on which sewage sludge from your facility is placed. If sewage sludge is placed on more than one municipal solid waste landfill, attach additional pages as necessary.)

a. Landfill name: Louisa County Sanitary Landfill

b. Contact person:
Title: General Service Director
Phone: (540) 967-3462
Contact is: X Landfill Owner __Landfill Operator

c. Mailing address.
~~Street or~~ P.O. Box: 1980
City or Town: Louisa State: VA Zip: 23093

d. Landfill location.
Street or Route #: 807 Moorefield Road
County: Louisa
City or Town: Mineral State: VA Zip: 23117

e. Total dry metric tons per 365-day period of sewage sludge placed in this municipal solid waste landfill:
0-70.2 dry metric tons (Used w/Land Application)

f. List, on this form or an attachment, the numbers of all federal, state or local permits that regulate the operation of this municipal solid waste landfill:

Permit Number:	Type of Permit:
1994	HB1205 Subtitle D
569	

g. Does sewage sludge meet applicable requirements in the Virginia Solid Waste Management Regulation, 9 VAC 20-80-10 et seq., concerning the quality of materials disposed in a municipal solid waste landfill?
X Yes __No

h. Does the municipal solid waste landfill comply with all applicable criteria set forth in the Virginia Solid Waste Management Regulation, 9 VAC 20-80-10 et seq.? X Yes __No

i. Will the vehicle bed or other container used to transport sewage sludge to the municipal solid waste landfill be watertight and covered? X Yes ___ No
Show the haul route(s) on a location map or briefly describe the route below and indicate the days of the week and time of the day sewage sludge will be transported. Please see Attached. (1)

mapquest

Trip to:

807 Moorefield Rd
Mineral, VA 23117
7.89 miles / 12 minutes

Notes

Louisa Regional WWTP

VA0067954

VPDES Sewage Sludge Permit Application, Section B.10 (l) Sludge Haul Route

A 131 Pine Ridge Dr, Louisa, VA 23093-6540

1. Start out going **east** on **Pine Ridge Dr** toward **Jefferson Hwy / US-33**. Map	**0.3 Mi** *0.3 Mi Total*
2. Turn **right** onto **Jefferson Hwy / US-33**. Map	**4.5 Mi** *4.8 Mi Total*
3. Turn **left** onto **Willis Proffitt Rd**. Map	**1.5 Mi** *6.3 Mi Total*
4. Turn **right** onto **Pendleton Rd / US-522**. Map	**0.4 Mi** *6.7 Mi Total*
5. Take the 1st **left**. Map	**0.8 Mi** *7.5 Mi Total*
6. Turn **right** onto **Moorefield Rd**. Map	**0.4 Mi** *7.9 Mi Total*
7. **807 MOOREFIELD RD**. Map	

B 807 Moorefield Rd, Mineral, VA 23117

FACILITY NAME: Louisa Regional WWTP VPDES PERMIT NUMBER: VA 0067954

SECTION C. LAND APPLICATION OF BULK SEWAGE SLUDGE

Complete this section for sewage sludge that is land applied unless any of the following conditions apply:
The sewage sludge meets the Table 1 ceiling concentrations, the Table 3 pollutant concentrations, Class A pathogen requirements and one of the vector attraction reduction options 1-8 (fill out B.4 instead) (EQ Sludge); or
The sewage sludge is sold or given away in a bag or other container for application to the land (fill out B.5 instead); or
You provide the sewage sludge to another facility for treatment or blending (fill out B.6 instead).
Complete Section C for every site on which the sewage sludge that you reported in B.7 is land applied.

1. Identification of Land Application Site. (Please see VPA 00074 Permit)
   a. Site name or number:
   b. Site location (Complete i and ii)
      i. Street or Route#:
      County:
      City or Town: _____ State: _____ Zip:
      ii. Latitude: _____ Longitude:
      Method of latitude/longitude determination
      _____ USGS map _____ Filed survey _____ Other
   c. Topographic map. Provide a topographic map (or other appropriate map if a topographic map is unavailable) that shows the site location.

2. Owner Information. (Please see VPA 00074 Permit)
   a. Are you the owner of this land application site? __Yes __No
   b. If no, provide the following information about the owner:
      Name:
      Street or P.O. Box:
      City or Town: _____ State: _____ Zip:
      Phone: ( )

3. Applier Information: (Please see VPA 00074 Permit)
   a. Are you the person who applies, or who is responsible for application of, sewage sludge to this land application site? __Yes __No
   b. If no, provide the following information for the person who applies the sewage sludge:
      Name:
      Street or P.O. Box:
      City or Town: _____ State: _____ Zip:
      Phone: ( )
   c. List, on this form or an attachment, the numbers of all federal, state or local permits that regulate the person who applies sewage sludge to this land application site:
      Permit Number: Type of Permit:
      _____
      _____

4. Site Type. Identify the type of land application site from among the following:
   X Agricultural land __Reclamation site __Forest
   __Public contact site __Other. Describe

5. Vector Attraction Reduction.
   Are any vector attraction reduction requirements met when sewage sludge is applied to the land application site?
   ___Yes X No If yes, answer a and b.
   a. Indicate which vector attraction reduction option is met:
      __ Option 9 (Injection below land surface)
      __ Option 10 (Incorporation into soil within 6 hours)
   b. Describe, on this form or on another sheet of paper, any treatment processes used at the land application site to reduce the vector attraction properties of sewage sludge:

6. Cumulative Loadings and Remaining Allotments. N/A
   (Complete Question 6 only if the sewage sludge applied to this site since July 20, 1993 is subject to the cumulative pollutant loading rates (CPLRs) - see instructions.)
   a. Have you contacted DEQ or the permitting authority in the state where the sewage sludge subject to the

CPLRs will be applied to ascertain whether bulk sewage sludge subject to the CPLRs has been applied to this site since July 20, 1993? __Yes __No
If no, sewage sludge subject to the CPLRs may not be applied to this site.
If yes, provide the following information:
Permitting authority:
Contact person:
Phone:( )

b. Based upon this inquiry, has bulk sewage sludge subject to the CPLRs been applied to this site since July 20, 1993? __Yes __No If no, skip the rest of Question 6. If yes, answer questions c - e.

c. Site size, in hectares: _____ (one hectare = 2.471 acres)

d. Provide the following information for every facility other than yours that is sending or has sent sewage sludge subject to the CPLRs to this site since July 20, 1993. If more than one such facility sends sewage sludge to this site, attach additional pages as necessary.
Facility name:
Facility contact:
Title:
Phone: ( )
Mailing address.
Street or P.O. Box:
City or Town:_____ State:_____ Zip:

e. Provide the total loading and allotment remaining, in kg/hectare, for each of the following pollutants:

	Cumulative loading	Allotment remaining
Arsenic	_____	
Cadmium	_____	
Copper	_____	
Lead	_____	
Mercury	_____	
Nickel	_____	
Selenium	_____	
Zinc	_____	

Complete Questions 7-12 below only if you apply sewage sludge, or you are responsible for land application of sewage sludge. Information required by these questions may be prepared as attachments to this form. Skip the following questions if you contract land application to someone else (as indicated under Section A.7) who is responsible for the operation.

7. Sludge Characterization. Use the table below or a separate attachment, provide at least one analysis for each parameter.

PCBs (mg/kg)	<0.0981	(Sampled 11/14/2012, COPY ATTACHED)
pH (S. U.)	7.4	(Sampled 04/17/2014, COPY ATTACHED)
Percent Solids (%)	17.33	"
Ammonium Nitrogen (mg/kg)	3060	"
Nitrate Nitrogen (mg/kg)	101	"
Total Kjeldahl Nitrogen (mg/kg)	56,700	"
Total Phosphorus (mg/kg)	23,200	"
Total Potassium (mg/kg)	5,290	"
Alkalinity as $CaCO_3$ (mg/kg)	20,800	"

* Lime treated sludge (10% or more lime by dry weight) should be analyzed for percent $CaCO_3$.

VPDES Sewage Slude Permit Application Form, Section C, Land Application of Bulk Sewage Sludge, Question #7. PCB's

A&L Eastern Laboratories, Inc.
7621 Whitepine Road Richmond, Virginia 23237 (804) 743-9401 Fax (804) 271-6448
www.al-labs-eastern.com

12/4/2012

LOUISA CO WATER AUTH
WES BASORE
POB 9
LOUISA, VA, 23093

Ref: Analytical Testing
Report Number: 12-324-0204
Project Description: LOUISA REGIONAL WWTP SLUDGE CAKE/PCB'S

Dear WES BASORE:

A&L Eastern Laboratories received sample(s) on 11/19/2012 for the analyses presented in the following report.

The above referenced project has been analyzed per your instructions. The analyses were performed in our laboratory in accordance with Standard Methods, The Solid Waste Manual SW-846, EPA Methods for Chemical Analysis of Water and Wastes and /or 40 CFR part 136.

The EPA requires that water samples analyzed for pH, dissolved oxygen and total residual chlorine be analyzed in the field. Analyses and results reported which do not indicate "Field" for these parameters were analyzed outside the holding time as specified in Table II of 40 CFR Part 136.3.

The analytical data has been validated using standard quality control measures performed as required by the analytical method. Quality Assurance, instrumentation maintenance and calibration were performed in accordance with guidelines established by the USEPA and NELAP.

The results are shown on the attached analysis sheet(s).

Please do not hesitate to contact me or client services if you have any questions or need additional information.

Sincerely,

Pauric McGroary
Agronomist

Laboratory's liability in any claim relating to analyses performed shall be limited to, at laboratory's option, repeating the analysis in question at laboratory's expense, or the refund of the charges paid for performance of said analysis.

Alabama	#40750	Louisiana	#04015	Florida	#E87943	California	#05240CA
Arkansas	#88-0650	Mississippi		Pennsylvania	#68-3195	Texas	#T104704180-05-TX
Illinois	#200015	Oklahoma	#9311	USDA	#S-46279		
Kentucky	#90047	Tennessee	#02027	EPA	#TN00012		
Kentucky UST	#41	Virginia	#00106	NELAP	#100456		

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A&L Eastern Laboratories

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Sample Summary Table

Report Number: **12-324-0204**

Client Project Description: **LOUISA REGIONAL WWTP SLUDGE CAKE/PCB'S**

Lab No	Client Sample ID	Matrix	Date Collected	Date Received	Method	Lab ID
90491	SLUDGE CAKE	Solids	11/14/2012 13:45	11/19/2012	8082	ETC
90491	SLUDGE CAKE	Solids	11/14/2012 13:45	11/19/2012	SM-2540G	ALE

ALE: A&L Eastern Laboratories, Certification: 460014

ETC: Environmental Testing and Consulting, Inc., Memphis, TN, Certification: #1354

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A&L Eastern Laboratories

7621 Whitepine Road Richmond, Virginia 23237 (804) 743-9401 Fax (804) 271-6446

74341
LOUISA CO WATER AUTH
WES BASORE
POB 9
LOUISA , VA 23093

HENRY SMITH
Project Information : LOUISA REGIONAL WWTP SLUDGE CAI

Report Date : 12/04/2012
Received : 11/19/2012

Pauric McGroary

Submitted By : HENRY SMITH
Report Number : **12-324-0204**

REPORT OF ANALYSIS

Pauric McGroary
Agronomist

Lab No : **90491**
Sample ID : **SLUDGE CAKE**

Matrix: **Solids**
Sampled: **11/14/2012 13:45**

Analytical Method: 8082
Prep Method: 3550B **Prep Batch(es):** L148579 **Date/Time Prepped:**

Test	Results	Units	MQL	DF	Date / Time Analyzed	By	Analytical Batch
Aroclor 1016	<0.0981	mg/Kg	0.0981	1	11/29/12 15:17	VIC	L148634
Aroclor 1221	<0.0981	mg/Kg	0.0981	1	11/29/12 15:17	VIC	L148634
Aroclor 1232	<0.0981	mg/Kg	0.0981	1	11/29/12 15:17	VIC	L148634
Aroclor 1242	<0.0981	mg/Kg	0.0981	1	11/29/12 15:17	VIC	L148634
Aroclor 1248	<0.0981	mg/Kg	0.0981	1	11/29/12 15:17	VIC	L148634
Aroclor 1254	<0.0981	mg/Kg	0.0981	1	11/29/12 15:17	VIC	L148634
Aroclor 1260	<0.0981	mg/Kg	0.0981	1	11/29/12 15:17	VIC	L148634
Surrogate: Decachlorobiphenyl	77.2 %		Limits: 17-141%	1	11/29/12 15:17	VIC	L148634
Surrogate: Tetrachloro-m-xylene	45.6 %		Limits: 20-122%	1	11/29/12 15:17	VIC	L148634

Qualifiers/ Definitions				
	*	Outside QC limit	B	Analyte detected in blank
	C	GCMS Confirmation Analysis	E	Exceeds calibration range
	g	GGA outside QC limits	H	Beyond holding time
	J	Estimated Value	M	Minimum value
	NA	Not on Scope of Accreditation	NC	Not confirmed
	Q	Surrogate Recovery	T	Sample exhibits toxicity

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A&L Eastern Laboratories

7621 Whitepine Road Richmond, Virginia 23237 (804) 743-9401 Fax (804) 271-6446

Cooler Receipt Form

Customer Number: **74341**

Customer Name: **LOUISA CO WATER AUTH**

Report Number: **12-324-0204**

Shipping Method

○ Fed Ex ○ UPS ○ US Postal ○ Client ● Lab ○ Courier ○ Other :

Shipping container/cooler uncompromised?	● Yes	○ No	
Custody seals intact on shipping container/cooler?	○ Yes	○ No	● Not Required
Custody seals intact on sample bottles?	○ Yes	○ No	● Not Required
Chain of Custody (COC) present?	● Yes	○ No	
COC agrees with sample label(s)?	● Yes	○ No	
COC properly completed	● Yes	○ No	
Samples in proper containers?	● Yes	○ No	
Sample containers intact?	● Yes	○ No	
Sufficient sample volume for indicated test(s)?	● Yes	○ No	
All samples received within holding time?	● Yes	○ No	
Cooler temperature in compliance?	● Yes	○ No	
Cooler/Samples arrived at the laboratory on ice. Samples were considered acceptable as cooling process had begun.	● Yes	○ No	
Water - Sample containers properly preserved	● Yes	○ No	○ N/A
Water - VOA vials free of headspace	○ Yes	○ No	● N/A
Trip Blanks received with VOAs	○ Yes	○ No	● N/A
Soil VOA method 5035 – compliance criteria met	○ Yes	○ No	● N/A

☐ High concentration container (48 hr) ☐ Low concentration EnCore samplers (48 hr)

☐ High concentration pre-weighed (methanol -14 d) ☐ Low conc pre-weighed vials (Sod Bis -14 d)

Special precautions or instructions included? ○ Yes ● No

Comments:

Any regulatory non-compliance issues will be recorded on non-compliance report.

Signature: Brandi Watson

Date & Time: 11/20/2012 09:32:10

Louisa County Water Authority

[redacted]

Chain of Custody

12-324-0204
74341
2012-11-19
13:52:19
LOUISA CO WATER AUTH
BIOSOLIDS/PCB'S

Sampler: Henry P. Smith

Signature: Henry P Smith

Collection Date/Time	Sample Identificaiton	Analysis Requested	Preservative	Sample Type: Composite	Sample Type: Grab	Total # of Containers	Total Chlorine (mg/L)	Remarks
11-14-12 13:45	LOUISA REGIONAL WWTP SLUDGE CAKE	PCB	NONE		X	2	—	IN REFRIGERATOR
	90f91							

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Henry P. Smith	11-14-12	13:45	FROM REFRIGERATOR 3.9°C Phillip Crosby	on ice 11-15-12	13:40
Phillip Crosby	11-15-12	14:52	Kathy Slutt	11-15-12	1452
Relinquished by:	Date:	Time:	Received by:	Date:	Time:

VPDES Sewage Sludge Permit Application, Section C., Land Application of Bulk Sewage Sludge, Question #7 pH, Percent Solids, Ammonium Nitrogen, etc.

Report Number: 14-108-0202
Account Number: 74341
Submitted By: PHILLIP BAILEY

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7621 Whitepine Road Richmond, Virginia 23237 (804) 743-9401 Fax (804) 271-6446

Send To: LOUISA CO WATER AUTH
WES BASORE
POB 9
LOUISA , VA 23093

Project : LOUISA REGIONAL WWTP SLUDGE CAKE

REPORT OF ANALYSIS

Lab Number : 50039
Sample Id : LOUISA REGIONAL WWTP SLUDGE CAKE

Date Sampled: 4/17/2014 13:00:00
Date Received: 04/18/2014 00:00
Date Reported: 04/23/2014

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Solids *	17.33	173300	100.0	JM	04/18/2014 14:39	SM-2540G
Moisture *	82.67		100.0	JM	04/18/2014 14:39	SM-2540G
Total Kjeldahl Nitrogen	5.67	56700	10.0	JM	04/21/2014 08:30	SM-4500-NH3C-TKN
Total Phosphorus	2.32	23200	100	KM	04/21/2014 13:29	SW 6010C
Total Potassium	0.53	5290	100	KM	04/21/2014 13:29	SW 6010C
Total Copper		446	5	KM	04/21/2014 13:29	SW 6010C
Total Zinc		777	5	KM	04/21/2014 13:29	SW 6010C
Ammonia Nitrogen	0.31	3060	10.0	JM	04/21/2014 08:30	SM-4500-NH3C
Organic N	5.36	53640	10.0		04/21/2014 08:30	CALCULATION
Nitrate (NO3-N)		101	2.00	JM	04/21/2014 08:30	SM-4500NO3F
Total Cadmium		<2.0	2.0	KM	04/21/2014 13:29	SW 6010C
Total Chromium		54	5	KM	04/21/2014 13:29	SW 6010C
Total Nickel		28	5	KM	04/21/2014 13:29	SW 6010C
Total Lead		22	5	KM	04/21/2014 13:29	SW 6010C
Total Arsenic		3.0	3.0	KM	04/21/2014 13:29	SW 6010C
Total Mercury		2.6	0.4	KM	04/21/2014 09:00	SW-7471B
Total Selenium		<5.0	5.0	KM	04/21/2014 13:29	SW 6010C
pH (Standard Units) *	7.04		2.00	JM	04/21/2014 08:30	SW-9045D

All values are on a dry weight basis except as noted by asterisk. Detection limit on all N series is on a wet basis.

Debbie Holt

Report Number: 14-108-0202
Account Number: 74341
Submitted By: PHILLIP BAILEY

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7621 Whitepine Road Richmond, Virginia 23237 (804) 743-9401 Fax (804) 271-6446

Send To: LOUISA CO WATER AUTH
WES BASORE
POB 9
LOUISA , VA 23093

Project : LOUISA REGIONAL WWTP SLUDGE CAKE

REPORT OF ANALYSIS

Date Sampled: 4/17/2014 13:00:00
Date Received: 04/18/2014 00:00
Date Reported: 04/23/2014

Lab Number : 50039
Sample Id : LOUISA REGIONAL WWTP SLUDGE CAKE

PARAMETER	RESULT (%)	RESULT (mg/kg)	QUANTITATION LIMIT (mg/kg*)	ANALYST	ANALYSIS DATE/TIME	METHOD
Total Volatile Solids	71.81	718100	100.0	JM	04/18/2014 14:39	SM-2540G
Total Molybdenum		5	5	KM	04/21/2014 13:29	SW 6010C
Alkalinity (as CaCO3)		20800	100	JM	04/21/2014 10:45	SM-2320 B
Nitrite (NO2-N)		<2.00	2.00	JM	04/21/2014 09:30	SM-4500-NO2B

Comments:
NELAP ACCREDITED: VA NELAC LAB. # 460014. PA NELAC LAB # 68-03109, FL NELAC LAB # E871087, NJ NELAC LAB # VA011. RESULTS REPORTED MEET ALL REQUIREMENTS OF THE CURRENT NELAC STANDARDS. ALKALINITY AND ORGANIC NITROGEN NOT FOR COMPLIANCE PURPOSES. CCE FOR COMPLIANCE IN VIRGINIA AND PENNSYLVANIA ONLY

All values are on a dry weight basis except as noted by asterisk. Detection limit on all N series is on a wet basis.

Debbie Holt

8. Storage Requirements. (Please see VPA 00074 Permit)
Existing and proposed sludge storage facilities must provide an estimated annual sludge balance on a monthly basis incorporating such factors as storage capacity, sludge production and land application schedule. Include pertinent calculations justifying storage requirements.
Proposed sludge storage facilities must also provide the following information:

a. A sludge storage site layout on a 7.5 minute topographic quadrangle or other appropriate scaled map to show the following topographic features of the surrounding landscape to a distance of 0.25 mile. Clearly mark the property line.
   1) Water wells, abandoned or operating
   2) Surface waters
   3) Springs
   4) Public water supply(s)
   5) Sinkholes
   6) Underground and/or surface mines
   7) Mine pool (or other) surface water discharge points
   8) Mining spoil piles and mine dumps
   9) Quarry(s)
   10) Sand and gravel pits
   11) Gas and oil wells
   12) Diversion ditch(s)
   13) Agricultural drainage ditch(s)
   14) Occupied dwellings, including industrial and commercial establishments
   15) Landfills or dumps
   16) Other unlined impoundments
   17) Septic tanks and drainfields
   18) Injection wells
   19) Rock outcrops

b. A topographic map of sufficient detail to clearly show the following information:
   1) Maximum and minimum percent slopes
   2) Depressions on the site that may collect water
   3) Drainageways that may attribute to rainfall run-on to or runoff from this site
   4) Portions of the site (if any) which are located with the 100-year floodplain and how the storage facility will be protected from flooding

c. Data and specifications for the storage facility lining material.

d. Plan and cross-sectional views of the storage facility.

e. Depth from the bottom of the storage facility to the seasonal high water table and separation distance to the permanent water table.

9. Land Area Requirements. Provide calculations justifying the land area requirements for land application of sewage sludge taking into consideration average soil productivity group, crop(s) to be grown and most limiting factor(s) of the sewage sludge, specifically Plant Available Nitrogen (PAN), Calcium Carbonate Equivalence (CCE), and metal loadings (CPLR sewage sludge only), where applicable. Relate PAN, CCE, and metal loadings to demonstrate the most limiting factor for land application. VPA 00074

10. Landowner Agreement Forms. Provide a properly completed **Land Application Agreement – Biosolids** Form and necessary attachments (attached at end of VPDES Sewage Sludge Permit Application Form) for each landowner if sewage sludge is to be applied onto land not owned by the applicant. VPA 00074

11. Ground Water Monitoring.
Are any ground water monitoring data available for this land application site? __Yes X No
If yes, submit the ground water monitoring data with this permit application. Also submit a written description of the well locations, approximate depth to ground water, and the ground water monitoring procedures used to obtain these data.

12. Land Application Site Information. VPA 00074
(Complete Items a-d for sites receiving infrequent application - land application of sewage sludge up to the agronomic rate at a frequency of once in a 3 year period; complete Items a-h for sites receiving frequent application - land application of sewage sludge in excess of 70% the agronomic rate at a frequency greater than once in a 3 year period)

a. Provide a general location map for each county which clearly indicates the location of all the land application sites.

b. For each land application site provide a site plan of sufficient detail to clearly show the concerned landscape features and associated buffer zones (See instructions). Provide a legend for each landscape feature and the net acreage for each field taking into account the proposed buffer zones.

c. In order to ensure that land application of bulk sewage sludge will not impact federally listed threatened or endangered species or federally designated critical habitat, the applicant must notify the field office of the U. S. Department of the Interior, Fish and Wildlife Service (FWS), by a letter, the proposed land application activities with the identification of the land application sites. The address and phone number of FWS are provided below.

U. S. Fish and Wildlife Service
Virginia Field Office
6669 Short Lane
Gloucester, VA 23061
TEL: (804)693-6694

Provide a copy of the notification letter with this application form.

d. Provide a soil survey map, preferably photographically based, with the field boundaries clearly marked. (A USDA-SCS soil survey map should be provided, if available.)
Provide a detailed legend for each soil survey map which uses accepted USDA-SCS descriptions of the typifying pedon for each soil series (soil type). Complex associations may be described as a range of characteristics. Soil descriptions shall include as a minimum the following information.

1) Soil symbol
2) Soil series, textural phase and slope range
3) Depth to seasonal high water table
4) Depth to bedrock
5) Estimated soil productivity group (for the proposed crop rotation)

Item e - h are required for sites receiving frequent application of sewage sludge

e. In order to verify the information provided in item d, characterize the soil at each land application site. Representative soil borings or test pits to a depth of five feet or to bedrock if shallower, are to be coordinated for the typifying pedon of each soil series (soil type). Soil descriptions shall include as a minimum the following information:

1). Soil symbol
2). Soil series, textural phase and slope range
3). Depth to seasonal high water table
4). Depth to bedrock
5). Estimated soil productivity group (for the proposed crop rotation)

f. Collect and analyze soil samples from each field, weighted to best represent each of the soil borings performed for Item e. Using the table below or a separate attachment, provide at least one analysis per sample for each of the following parameters.

Soil Organic Matter (%)
Soil pH (std. units)
Cation Exchange Capacity (meq/100g)
Total Nitrogen (ppm)
Organic Nitrogen (ppm)
Ammonia Nitrogen (ppm)
Nitrate Nitrogen (ppm)
Available Phosphorus (ppm)
Exchangeable Potassium (mg/100g)
Exchangeable Sodium (mg/100g)
Exchangeable Calcium (mg/100g)
Exchangeable Magnesium (mg/100g)
Arsenic (ppm)
Cadmium (ppm)
Copper (ppm)
Lead (ppm)
Mercury (ppm)
Molybdenum (ppm)
Nickel (ppm)
Selenium (ppm)
Zinc (ppm)
Manganese (ppm)
Particle Size Analysis or
USDA Textural Estimate (%)

g. Relate the crop nutrient needs to anticipated yields, soil productivity rating and the various fertilizer or nutrient sources from sludge and chemical fertilizers. Describe any specialized agronomic management practices which may be required as a result of high soil pH. If the sludge is expected to possess an unusually high CCE or other unusual properties, provide a description of any plant tissue testing, supplemental fertilization or intensive agronomic management practices which may be necessary.

h. Using a narrative format and referencing any related charts, describe the proposed cropping system. Show how the crop rotation and management will be coordinated with the design of the land application system. Include any supplemental fertilization program, soil testing and the coordination of tillage practices, planting and harvesting schedules and timing of land application.

FACILITY NAME: Louisa Regional WWTP

VPDES PERMIT NUMBER: VA 0067954

SECTION D. SURFACE DISPOSAL

Complete this section only if you own or operate a surface disposal site. Provide the information for each active sewage sludge unit.

1. Information on Active Sewage Sludge Units. N/A
   a. Unit name or number:
   b. Unit location
      i. Street or Route#:
      County:
      City or Town: _____ State: _____ Zip:
      ii. Latitude: _____ Longitude:
      Method of latitude/longitude determination
      _____ USGS map _____ Filed survey _____ Other
   c. Topographic map. Provide a topographic map (or other appropriate map if a topographic map is unavailable) that shows the site location.
   d. Total dry metric tons of sewage sludge placed on the active sewage sludge unit per 365-day period: _____ dry metric tons.
   e. Total dry metric tons of sewage sludge placed on the active sewage sludge unit over the life of the unit: _____ dry metric tons.
   f. Does the active sewage sludge unit have a liner with a minimum hydraulic conductivity of 1×10^{-7} cm/sec? __Yes __No If yes, describe the liner or attach a description.

   g. Does the active sewage sludge unit have a leachate collection system? __Yes __No
   If yes, describe the leachate collection system or attach a description. Also, describe the method used for leachate disposal and provide the numbers of any federal, state or local permits for leachate disposal:

   h. If you answered no to either f or g, answer the following:
   Is the boundary of the active sewage sludge unit less than 150 meters from the property line of the surface disposal site? __Yes __No If yes, provide the actual distance in meters:
   i. Remaining capacity of active sewage sludge unit, in dry metric tons: _____ dry metric tons
   Anticipated closure date for active sewage sludge unit, if known: _____ (MM/DD/YYYY)
   Provide with this application a copy of any closure plan developed for this active sewage sludge unit.

2. Sewage Sludge from Other Facilities.
   Is sewage sludge sent to this active sewage sludge unit from any facilities other than yours? __Yes __No
   If yes, provide the following information for each such facility, attach additional sheets as necessary.
   a. Facility name:
   b. Facility contact:
   Title:
   Phone: ( )
   c. Mailing address.
   Street or P.O. Box:
   City or Town: _____ State: _____ Zip:
   d. List, on this form or an attachment, the facility's VPDES permit number as well as the numbers of all other federal, state or local permits that regulate the facility's sewage sludge management practices:
   Permit Number: Type of Permit:
   _____
   _____
   e. Which class of pathogen reduction is achieved before sewage sludge leaves the other facility?
   __Class A __Class B __Neither or unknown
   f. Describe, on this form or on another sheet of paper, any treatment processes used at the other facility to reduce pathogens in sewage sludge:

   g. Which vector attraction reduction option is achieved before sewage sludge leaves the other facility?
   __ Option 1 (Minimum 38 percent reduction in volatile solids)

__ Option 2 (Anaerobic process, with bench-scale demonstration)
__ Option 3 (Aerobic process, with bench-scale demonstration)
__ Option 4 (Specific oxygen uptake rate for aerobically digested sludge)
__ Option 5 (Aerobic processes plus raised temperature)
__ Option 6 (Raise pH to 12 and retain at 11.5)
__ Option 7 (75 percent solids with no unstabilized solids)
__ Option 8 (90 percent solids with unstabilized solids)
__ None or unknown

h. Describe, on this form or another sheet of paper, any treatment processes used at the other facility to reduce vector attraction properties of sewage sludge:

i. Describe, on this form or another sheet of paper, any other sewage sludge treatment activities performed by the other facility that are not identified in e - h above:

3. Vector Attraction Reduction.

a. Which vector attraction reduction option, if any, is met when sewage sludge is placed on this active sewage sludge unit?
__ Option 9 (Injection below land surface)
__ Option 10 (Incorporation into soil within 6 hours)
__ Option 11 (Covering active sewage sludge unit daily)

b. Describe, on this form or another sheet of paper, any treatment processes used at the active sewage sludge unit to reduce vector attraction properties of sewage sludge:

4. Ground Water Monitoring.

a. Is ground water monitoring currently conducted at this active sewage sludge unit or are ground water monitoring data otherwise available for this active sewage sludge unit? ___Yes __No
If yes, provide a copy of available ground water monitoring data. Also provide a written description of the well locations, the approximate depth to ground water, and the ground water monitoring procedures used to obtain these data.

b. Has a ground water monitoring program been prepared for this active sewage sludge unit?
__Yes __No If yes, submit a copy of the ground water monitoring program with this application.

c. Have you obtained a certification from a qualified ground water scientist that the aquifer below the active sewage sludge unit has not been contaminated? __Yes __No
If yes, submit a copy of the certification with this application.

5. Site-Specific Limits.

Are you seeking site-specific pollutant limits for the sewage sludge placed on the active sewage sludge unit?
__Yes __No If yes, submit information to support the request for site-specific pollutant limits with this application.

VPDES SEWAGE SLUDGE PERMIT APPLICATION FORM

LAND APPLICATION AGREEMENT - BIOSOLIDS (See VPA 00074 Permit)

A. This land application agreement is made on _____ between _____ referred to here as "Landowner", and _____, referred to here as the "Permittee". This agreement remains in effect until it is terminated in writing by either party or, with respect to those parcels that are retained by the Landowner in the event of a sale of one or more parcels, until ownership of all parcels changes. If ownership of individual parcels identified in this agreement changes, those parcels for which ownership has changed will no longer be authorized to receive biosolids or industrial residuals under this agreement.

Landowner:

The Landowner is the owner of record of the real property located in _____, Virginia, which includes the agricultural, silvicultural or reclamation sites identified below in Table 1 and identified on the tax map(s) attached as Exhibit A.

Table 1.: Parcels authorized to receive biosolids			
Tax Parcel ID	Tax Parcel ID	Tax Parcel ID	Tax Parcel ID

☐ Additional parcels containing Land Application Sites are identified on Supplement A (check if applicable)

Check one:
- ☐ The Landowner is the sole owner of the properties identified herein.
- ☐ The Landowner is one of multiple owners of the properties identified herein.

In the event that the Landowner sells or transfers all or part of the property to which biosolids have been applied within 38 months of the latest date of biosolids application, the Landowner shall:

1. Notify the purchaser or transferee of the applicable public access and crop management restrictions no later than the date of the property transfer; and
2. Notify the Permittee of the sale within two weeks following property transfer.

The Landowner has no other agreements for land application on the fields identified herein. The Landowner will notify the Permittee immediately if conditions change such that the fields are no longer available to the Permittee for application or any part of this agreement becomes invalid or the information herein contained becomes incorrect.

The Landowner hereby grants permission to the Permittee to land apply biosolids on the agricultural sites identified above and in Exhibit A. The Landowner also grants permission for DEQ staff to conduct inspections on the land identified above, before, during or after land application of biosolids for the purpose of determining compliance with regulatory requirements applicable to such application.

_____

Landowner – Printed Name, Title | Signature | Mailing Address

Permittee:

_____, the Permittee, agrees to apply biosolids on the Landowner's land in the manner authorized by the VPDES Permit Regulation and in amounts not to exceed the rates identified in the nutrient management plan prepared for each land application field by a person certified in accordance with §10.1-104.2 of the Code of Virginia.

The Permittee agrees to notify the Landowner or the Landowner's designee of the proposed schedule for land application and specifically prior to any particular application to the Landowner's land. Notice shall include the source of residuals to be applied.

☐ I reviewed the documents assigning signatory authority to the person signing for landowner above. I will make a copy of this document available to DEQ for review upon request. (Do not check this box if the landowner signs this agreement)

_____

Permittee – Authorized Representative Printed Name | Signature | Mailing Address

VPDES SEWAGE SLUDGE PERMIT APPLICATION FORM

LAND APPLICATION AGREEMENT - BIOSOLIDS (See VPA 00074 Permit)

Permittee: _____ **County or City:** _____

Landowner: _____

Landowner Site Management Requirements:

I, the Landowner, I have received a DEQ Biosolids Fact Sheet that includes information regarding regulations governing the land application of biosolids, the components of biosolids and proper handling and land application of biosolids.

I have also been expressly advised by the Permittee that the site management requirements and site access restrictions identified below must be complied with after biosolids have been applied on my property in order to protect public health, and that I am responsible for the implementation of these practices.

I agree to implement the following site management practices at each site under my ownership following the land application of biosolids at the site:

1. Notification Signs: I will not remove any signs posted by the Permittee for the purpose of identifying my field as a biosolids land application site, unless requested by the Permittee, until at least 30 days after land application at that site is completed.
2. Public Access
   a. Public access to land with a high potential for public exposure shall be restricted for at least one year following any application of biosolids.
   b. Public access to land with a low potential for public exposure shall be restricted for at least 30 days following any application of biosolids. No biosolids amended soil shall be excavated or removed from the site during this same period of time unless adequate provisions are made to prevent public exposure to soil, dusts or aerosols;
   c. Turf grown on land where biosolids are applied shall not be harvested for one year after application of biosolids when the harvested turf is placed on either land with a high potential for public exposure or a lawn, unless otherwise specified by DEQ.
3. Crop Restrictions:
   a. Food crops with harvested parts that touch the biosolids/soil mixture and are totally above the land surface shall not be harvested for 14 months after the application of biosolids.
   b. Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after the application of biosolids when the biosolids remain on the land surface for a time period of four (4) or more months prior to incorporation into the soil,
   c. Food crops with harvested parts below the surface of the land shall not be harvested for 38 months when the biosolids remain on the land surface for a time period of less than four (4) months prior to incorporation.
   d. Other food crops and fiber crops shall not be harvested for 30 days after the application of biosolids;
   e. Feed crops shall not be harvested for 30 days after the application of biosolids (60 days if fed to lactating dairy animals).
4. Livestock Access Restrictions:
   Following biosolids application to pasture or hayland sites:
   a. Meat producing livestock shall not be grazed for 30 days,
   b. Lactating dairy animals shall not be grazed for a minimum of 60 days.
   c. Other animals shall be restricted from grazing for 30 days;
5. Supplemental commercial fertilizer or manure applications will be coordinated with the biosolids and industrial residuals applications such that the total crop needs for nutrients are not exceeded as identified in the nutrient management plan developed by a person certified in accordance with §10.1-104.2 of the Code of Virginia;
6. Tobacco, because it has been shown to accumulate cadmium, should not be grown on the Landowner's land for three years following the application of biosolids or industrial residuals which bear cadmium equal to or exceeding 0.45 pounds/acre (0.5 kilograms/hectare).

_____

Landowner's Signature Date

VPDES SEWAGE SLUDGE PERMIT APPLICATION FORM

LAND APPLICATION AGREEMENT - BIOSOLIDS (See VPA 00074 Permit)

Landowner Coordination Form

This form is used by the Permittee to identify properties (tax parcels) that are authorized to receive biosolids and each of the legal landowners of those tax parcels. A *Land Application Agreement – Biosolids* form, pages 1 and 2 with original signature must be attached for each legal landowner identified below prior to land application at the identified parcels.

Permittee: _____

County or City: _____

Please Print (Signatures not required on this page)

Tax Parcel ID(s)	Landowner(s)

VPDES SEWAGE SLUDGE PERMIT APPLICATION FORM

LAND APPLICATION AGREEMENT - BIOSOLIDS (See VPA 00074 Permit)

Permittee: _____ City/County: _____

Landowner: _____

Supplement A: Additional Land Application Sites

Table 1 continued: Parcels authorized to receive biosolids.

Tax Parcel ID	Tax Parcel ID	Tax Parcel ID	Tax Parcel ID

_____

Landowner – Printed Name Signature Mailing Address